

SHARP SERVICE MANUAL

No. S90K840LE814E



LCD COLOUR TELEVISION

LC-40LE814E/RU
LC-46LE814E/RU
LC-40LE824E/RU
LC-46LE824E/RU

MODELS

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

OUTLINE

This Service Manual covers the differences from LC-40/46LE810E and LC-40/46LE820E.
 For other technical information, refer to the LC-40/46LE810E, LC-40/46LX810E (No. S30E940LE810E) Service Manual and LC-40/46/52LE820E, LC-40/46LU820E (No. S30F240LE820E) Service Manual.

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Parts Guide

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

OUTLINE AND DIFFERENCES FROM BASE MODEL**OUTLINE**

This Service Manual covers the differences from LC-40/46LE810E and LC-40/46LE820E.

For other technical information, refer to the LC-40/46LE810E, LC-40/46LX810E (No. S30E940LE810E) Service Manual and LC-40/46/52LE820E, LC-40/46LU820E (No. S30F240LE820E) Service Manual.

DIFFERENCES FROM BASE MODEL (LC-40LE814E/RU)

| Ref No. | Description | LC-40LE810E (No. S30E940LE810E) | LC-40LE814E/RU (No. S90K840LE814E) | Interchangeability | Note |
|--------------------------------------|---------------------------|------------------------------------|---------------------------------------|--------------------|-----------|
| PRINTED WIRING BOARD ASSEMBLIES | | | | | |
| N | MAIN Unit | DKEYDF455FM03 | DKEYDF455FM11 | | Changed |
| N | ICON Unit | DUNTKF493FM03 | ← | — | No change |
| N | R/C, LED Unit | DUNTKF494FM02 | ← | — | No change |
| N | POWER/LED CONTROL Unit | RUNTKA685WJQZ | ← | — | No change |
| N | TOUCH SENSOR Unit | RUNTKA692WJQZ | ← | — | No change |
| N | LCD CONTROL Unit | RUNTK4512TPZC | ← | — | No change |
| LCD PANEL MODULE | | | | | |
| N | 40" LCD Panel Module Unit | R1LK400D3LWF2Y | ← | — | No change |
| CABINET PARTS | | | | | |
| Please refer to a Parts Guide | | | | | |
| SUPPLIED ACCESSORIES | | | | | |
| Please refer to a Parts Guide | | | | | |
| PACKING PARTS (NOT REPLACEMENT ITEM) | | | | | |
| Please refer to a Parts Guide | | | | | |
| SERVICE JIGS (USE FOR SERVICING) | | | | | |
| Please refer to a Parts Guide | | | | | |

DIFFERENCES FROM BASE MODEL (LC-46LE814E/RU)

| Ref No. | Description | LC-46LE810E (No. S30E940LE810E) | LC-46LE814E/RU (No. S90K840LE814E) | Interchangeability | Note |
|--------------------------------------|---------------------------|------------------------------------|---------------------------------------|--------------------|-----------|
| PRINTED WIRING BOARD ASSEMBLIES | | | | | |
| N | MAIN Unit | DKEYDF455FM03 | DKEYDF455FM11 | | Changed |
| N | ICON Unit | DUNTKF493FM03 | ← | — | No change |
| N | R/C, LED Unit | DUNTKF494FM02 | ← | — | No change |
| N | POWER/LED CONTROL Unit | RUNTKA686WJQZ | ← | — | No change |
| N | TOUCH SENSOR Unit | RUNTKA692WJQZ | ← | — | No change |
| N | LCD CONTROL Unit | RUNTK4437TPZE | RUNTK4512TPZC | | Changed |
| LCD PANEL MODULE | | | | | |
| N | 46" LCD Panel Module Unit | R1LK460D3LWA2Y | R1LK460D3LWG2Y | | Changed |
| CABINET PARTS | | | | | |
| Please refer to a Parts Guide | | | | | |
| SUPPLIED ACCESSORIES | | | | | |
| Please refer to a Parts Guide | | | | | |
| PACKING PARTS (NOT REPLACEMENT ITEM) | | | | | |
| Please refer to a Parts Guide | | | | | |
| SERVICE JIGS (USE FOR SERVICING) | | | | | |
| Please refer to a Parts Guide | | | | | |

DIFFERENCES FROM BASE MODEL (LC-40LE824E/RU)

| Ref No. | Description | LC-40LE820E (No. S30F240LE820E) | LC-40LE824E/RU (No. S90K840LE814E) | Interchangeability | Note |
|--------------------------------------|---------------------------|------------------------------------|---------------------------------------|--------------------|-----------|
| PRINTED WIRING BOARD ASSEMBLIES | | | | | |
| N | MAIN Unit | DKEYDF455FM01 | DKEYDF455FM12 | | Changed |
| N | ICON Unit | DUNTKF493FM03 | ← | — | No change |
| N | LOGO Unit | DUNTKF493FM04 | ← | — | No change |
| N | R/C, LED Unit | DUNTKF494FM02 | ← | — | No change |
| N | POWER/LED CONTROL Unit | RUNTKA685WJQZ | ← | — | No change |
| N | TOUCH SENSOR Unit | RUNTKA690WJQZ | RUNTKA761WJQZ | | Changed |
| N | LCD CONTROL Unit | RUNTK4512TPZC | ← | — | No change |
| LCD PANEL MODULE | | | | | |
| N | 40" LCD Panel Module Unit | R1LK400D3LWF0Y | ← | — | No change |
| CABINET PARTS | | | | | |
| Please refer to a Parts Guide | | | | | |
| SUPPLIED ACCESSORIES | | | | | |
| Please refer to a Parts Guide | | | | | |
| PACKING PARTS (NOT REPLACEMENT ITEM) | | | | | |
| Please refer to a Parts Guide | | | | | |
| SERVICE JIGS (USE FOR SERVICING) | | | | | |
| Please refer to a Parts Guide | | | | | |

DIFFERENCES FROM BASE MODEL (LC-46LE824E/RU)

| Ref No. | Description | LC-46LE820E (No. S30F240LE820E) | LC-46LE824E/RU (No. S90K840LE814E) | Interchangeability | Note |
|--------------------------------------|---------------------------|------------------------------------|---------------------------------------|--------------------|-----------|
| PRINTED WIRING BOARD ASSEMBLIES | | | | | |
| N | MAIN Unit | DKEYDF455FM01 | DKEYDF455FM12 | | Changed |
| N | ICON Unit | DUNTKF493FM03 | ← | — | No change |
| N | LOGO Unit | DUNTKF493FM04 | ← | — | No change |
| N | R/C, LED Unit | DUNTKF494FM02 | ← | — | No change |
| N | POWER/LED CONTROL Unit | RUNTKA686WJQZ | ← | — | No change |
| N | TOUCH SENSOR Unit | RUNTKA690WJQZ | RUNTKA761WJQZ | | Changed |
| N | LCD CONTROL Unit | RUNTK4437TPZE | RUNTK4512TPZC | | Changed |
| LCD PANEL MODULE | | | | | |
| N | 46" LCD Panel Module Unit | R1LK460D3LWA0Y | R1LK460D3LWG0Y | | Changed |
| CABINET PARTS | | | | | |
| Please refer to a Parts Guide | | | | | |
| SUPPLIED ACCESSORIES | | | | | |
| Please refer to a Parts Guide | | | | | |
| PACKING PARTS (NOT REPLACEMENT ITEM) | | | | | |
| Please refer to a Parts Guide | | | | | |
| SERVICE JIGS (USE FOR SERVICING) | | | | | |
| Please refer to a Parts Guide | | | | | |

| Interchangeability | | | |
|------------------------------------|-----------|------------------------------------|-----------|
| A: Completely interchangeable | OLD = NEW | C: Interchangeable from NEW to OLD | NEW → OLD |
| B: Interchangeable from OLD to NEW | OLD → NEW | D: Not interchangeable | NEW × OLD |

SAFETY PRECAUTION

IMPORTANT SERVICE SAFETY PRECAUTION

- **Service work should be performed only by qualified service technicians who are thoroughly familiar with all safety checks and the servicing guidelines which follow:**

■ WARNING

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC power before servicing.

CAUTION:

FOR CONTINUED PROTECTION AGAINST A RISK OF FIRE REPLACE ONLY WITH SAME TYPE FUSE.

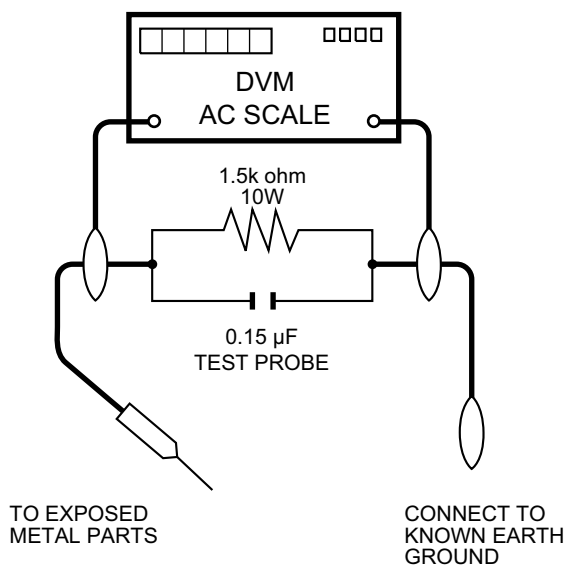
40 inch model: F7000, F7001 (3.15A/250V)
46 inch model: F7000, F7001 (5A/250V)

■ BEFORE RETURNING THE RECEIVER (Fire & Shock Hazard)

Before returning the receiver to the user, perform the following safety checks:

3. Inspect all lead dress to make certain that leads are not pinched, and check that hardware is not lodged between the chassis and other metal parts in the receiver.
4. Inspect all protective devices such as non-metallic control knobs, insulation materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacitor networks, mechanical insulators, etc.
5. To be sure that no shock hazard exists, check for leakage current in the following manner.
 - Plug the AC cord directly into a 220~240 volt AC outlet.
 - Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15μF capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduit or electrical ground connected to an earth ground.


- Use an AC voltmeter having with 5000 ohm per volt, or higher, sensitivity or measure the AC voltage drop across the resistor.
- Connect the resistor connection to all exposed metal parts having a return to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.
All checks must be repeated with the AC cord plug connection reversed. (If necessary, a nonpolarized adaptor plug must be used only for the purpose of completing these checks.)
Any reading of 1.05 V peak (this corresponds to 0.7 mA peak AC.) or more is excessive and indicates a potential shock hazard which must be corrected before returning the monitor to the owner.



SAFETY NOTICE

Many electrical and mechanical parts in LCD colour television have special safety-related characteristics.

These characteristics are often not evident from visual inspection, nor can protection afforded by them be necessarily increased by using replacement components rated for higher voltage, wattage, etc.

Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by “” and shaded areas in the Replacement Parts List and Schematic Diagrams.

For continued protection, replacement parts must be identical to those used in the original circuit.

The use of a substitute replacement parts which do not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire or other hazards.

Precautions for using lead-free solder

■Employing lead-free solder

- “PWBs” of this model employs lead-free solder. The LF symbol indicates lead-free solder, and is attached on the PWBs and service manuals. The alphabetical character following LF shows the type of lead-free solder.

Example:

LFa

Sn-Ag-Cu

Indicates lead-free solder of tin, silver and copper.

LFa/a

Sn-Ag-Cu

Indicates lead-free solder of tin, silver and copper.

■Using lead-free wire solder

- When fixing the PWB soldered with the lead-free solder, apply lead-free wire solder. Repairing with conventional lead wire solder may cause damage or accident due to cracks.

As the melting point of lead-free solder (Sn-Ag-Cu) is higher than the lead wire solder by 40 °C, we recommend you to use a dedicated soldering bit, if you are not familiar with how to obtain lead-free wire solder or soldering bit, contact our service station or service branch in your area.

■Soldering

- As the melting point of lead-free solder (Sn-Ag-Cu) is about 220 °C which is higher than the conventional lead solder by 40 °C, and as it has poor solder wettability, you may be apt to keep the soldering bit in contact with the PWB for extended period of time. However, Since the land may be peeled off or the maximum heat-resistance temperature of parts may be exceeded, remove the bit from the PWB as soon as you confirm the steady soldering condition.

Lead-free solder contains more tin, and the end of the soldering bit may be easily corroded. Make sure to turn on and off the power of the bit as required.

If a different type of solder stays on the tip of the soldering bit, it is alloyed with lead-free solder. Clean the bit after every use of it.

When the tip of the soldering bit is blackened during use, file it with steel wool or fine sandpaper.

- Be careful when replacing parts with polarity indication on the PWB silk.

Lead-free wire solder for servicing

| Part No. | ★ | Description | Code |
|---------------|---|---------------------|------|
| ZHNDai123250E | J | φ0.3mm 250g (1roll) | BL |
| ZHNDai126500E | J | φ0.6mm 500g (1roll) | BK |
| ZHNDai12801KE | J | φ1.0mm 1kg (1roll) | BM |

End of life disposal

End of life disposal



Attention: Your product is marked with this symbol. It means that used electrical and electronic products should not be mixed with general household waste. There is a separate collection system for these products.

A. Information on Disposal for Users (private households)

1. In the European Union

Attention: If you want to dispose of this equipment, please do not use the ordinary dust bin!

Used electrical and electronic equipment must be treated separately and in accordance with legislation that requires proper treatment, recovery and recycling of used electrical and electronic equipment.

Following the implementation by member states, private households within the EU states may return their used electrical and electronic equipment to designated collection facilities free of charge*. In some countries* your local retailer may also take back your old product free of charge if you purchase a similar new one.

*) Please contact your local authority for further details.

If your used electrical or electronic equipment has batteries or accumulators, please dispose of these separately beforehand according to local requirements.

By disposing of this product correctly you will help ensure that the waste undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health which could otherwise arise due to inappropriate waste handling.

2. In other Countries outside the EU

If you wish to discard this product, please contact your local authorities and ask for the correct method of disposal.

For Switzerland: Used electrical or electronic equipment can be returned free of charge to the dealer, even if you don't purchase a new product. Further collection facilities are listed on the homepage of www.swico.ch or www.sens.ch.

B. Information on Disposal for Business Users

1. In the European Union

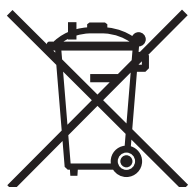
If the product is used for business purposes and you want to discard it:

Please contact your SHARP dealer who will inform you about the take-back of the product. You might be charged for the costs arising from take-back and recycling. Small products (and small amounts) might be taken back by your local collection facilities.

For Spain: Please contact the established collection system or your local authority for take-back of your used products.

2. In other Countries outside the EU

If you wish to discard of this product, please contact your local authorities and ask for the correct method of disposal.



The battery supplied with this product contains traces of Lead.

For EU: The crossed-out wheeled bin implies that used batteries should not be put to the general household waste! There is a separate collection system for used batteries, to allow proper treatment and recycling in accordance with legislation. Please contact your local authority for details on the collection and recycling schemes.

For Switzerland: The used battery is to be returned to the selling point.

For other non-EU countries: Please contact your local authority for correct method of disposal of the used battery.

OUTLINE

MAJOR SERVICE PARTS

■PWB UNIT

| Ref No. | Parts Code | Description |
|---------|---------------|---|
| N | DKEYDF455FM11 | MAIN Unit (LC-40LE814E/RU)(LC-46LE814E/RU) (*1) |
| N | DKEYDF455FM12 | MAIN Unit (LC-40LE824E/RU)(LC-46LE824E/RU) (*1) |
| N | DUNTKF493FM03 | ICON Unit |
| N | DUNTKF493FM04 | LOGO Unit (LC-40LE824E/RU)(LC-46LE824E/RU) |
| N | DUNTKF494FM02 | R/C, LED Unit |
| N | RUNTKA685WJQZ | POWER/LED CONTROL Unit (LC-40LE814E/RU)(LC-40LE824E/RU) |
| N | RUNTKA686WJQZ | POWER/LED CONTROL Unit (LC-46LE814E/RU)(LC-46LE824E/RU) |
| N | RUNTKA692WJQZ | TOUCH SENSOR Unit (LC-40LE814E/RU)(LC-46LE814E/RU) |
| N | RUNTKA761WJQZ | TOUCH SENSOR Unit (LC-40LE824E/RU)(LC-46LE824E/RU) (*2) |
| N | RUNTK4512TPZC | LCD CONTROL Unit |

NOTE: (*1) Replace MAIN Unit (DKEYDF455FM11, DKEYDF455FM12) in case of IC8401 or IC3302 failure.

(*2) TOUCH SENSOR Unit (RUNTKA761WJQZ) reuse will be impossible, once it is stuck on front cabinet and exfoliates.

Therefore, please exchange of a TOUCH SENSOR Unit in the case of front cabinet exchange.

■OTHER UNIT

| Ref No. | Parts Code | Description |
|---------|----------------|--|
| N | R1LK400D3LWF2Y | 40" LCD Panel Module Unit (LC-40LE814E/RU) |
| N | R1LK460D3LWG2Y | 46" LCD Panel Module Unit (LC-46LE814E/RU) |
| N | R1LK400D3LWF0Y | 40" LCD Panel Module Unit (LC-40LE824E/RU) |
| N | R1LK460D3LWG0Y | 46" LCD Panel Module Unit (LC-46LE824E/RU) |

■IC FOR EXCLUSIVE USE OF THE SERVICE

| Ref No. | Parts Code | Description | Q'ty |
|---------|----------------|--------------------|------|
| IC501 | RH-iXD108WJQZS | IC (EDID for PC) | 1 |
| IC2002 | RH-iXC786WJNJQ | IC (Monitor MICON) | 1 |

■SERVICE JIGS

| Ref No. | Parts Code | Description | Q'ty |
|---------|---------------|--|------|
| N | QCNW-G616WJQZ | Main Unit to LCD Control Unit (LW) | 1 |
| N | QCNW-G625WJQZ | Main Unit to Power Unit (PL) | 1 |
| N | QCNW-H184WJQZ | Main Unit to Power Unit (PD) | 1 |
| N | QCNW-H185WJQZ | Main Unit to Power Unit (LB) | 1 |
| N | QCNW-K594WJQZ | Main Unit to R/C, LED Unit (RA) | 1 |
| N | QCNW-K595WJQZ | Main Unit to Speaker (SP) | 1 |
| N | QCNW-K596WJQZ | Main Unit to Icon Unit (RL) (LC-40LE824E/RU)(LC-46LE824E/RU) | 1 |
| N | QCNW-K597WJQZ | Main Unit to Woofer (SB) | 1 |

CHAPTER 1. SPECIFICATIONS

[1] SPECIFICATIONS

| Item | | | LCD COLOUR TV (40"/102 cm), LC-40LE824E, LC-40LE824RU, LC-40LE814E, LC-40LE814RU | LCD COLOUR TV (46"/117 cm), LC-46LE824E, LC-46LE824RU, LC-46LE814E, LC-46LE814RU |
|-------------------------------------|--------------------------|--|---|--|
| LCD panel | | | 102 cm (40") X-Gen panel | 117 cm (46") X-Gen panel |
| Resolution | | | 1,920 x 1,080 x 4 dots | |
| Video colour system | | | PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60 | |
| TV function | TV-standard | Analogue | CCIR (B/G, I, D/K, L/L') | |
| | | Digital | DVB-T (2K/8K OFDM), DVB-C, DVB-S/S2 | |
| | Receiving channel | VHF/UHF | IR A ch–E69 ch (Digital), E2–E69 ch, F2–F10 ch, I21–I69 ch, IR A–IR J ch | |
| | | CATV | Hyper-band, S1–S41 ch | |
| | | Satellite | 950 – 2150 MHz ^{*3} | |
| | TV-tuning system | | Auto Preset 999 ch (non-Nordic [DTV]), Auto Preset 9999 ch (Nordic [DTV]), Auto Preset 99 ch (ATV), Auto Label, Auto Sort, Auto P reset 9999 ch (SAT) | |
| | STEREO/BILINGUAL | | NICAM/A2 | |
| Audio amplifier | | | 10 W x 2/15 W x 1 | |
| Speaker | | | (234 mm x 22 mm) x 2/Ø 120 mm | |
| Terminals | Antenna | | UHF/VHF 75 Ω Din type (analogue & digital), Satellite 75 Ω F type (DVB-S/S2) | |
| | RS-232C | | D-Sub 9 pin male connector | |
| | EXT 1 | | SCART (AV input, Y/C input, RGB input, TV output) | |
| | EXT 2 | | RCA pin (AV input/AUDIO L/R) | |
| | EXT 3 | | 15 pin mini D-sub | |
| | HDMI 1 (EXT 4) | | HDMI (ARC) | |
| | HDMI 2 (EXT 5) | | HDMI | |
| | HDMI 3 (EXT 6) | | HDMI | |
| | HDMI 4 (EXT 7) | | HDMI | |
| | USB | | USB | |
| | ETHERNET (10/100) | | Network connector | |
| | HDMI 2/EXT 3 AUDIO (L/R) | | Ø 3.5 mm jack*1 | |
| | DIGITAL AUDIO OUTPUT | | Optical S/PDIF digital audio output | |
| | C. I. (Common Interface) | | EN50221, R206001, CI Plus specification | |
| OUTPUT/Headphones | | RCA pin (AUDIO R/L)/Ø 3.5 mm jack (audio output) | | |
| OSD language | | | Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hungarian, Italian, Latvian, Lithuanian, Norwegian, Polish, Portuguese, Russian, Slovak, Slovene, Spanish, Swedish, Turkish, Ukrainian | |
| Power requirement | | | AC 220–240 V, 50 Hz | |
| Power consumption (method IEC62087) | 824 models | 127 W (0.2 W standby*2) | 147 W (0.2 W standby*2) | |
| | 814 models | 127 W (0.2 W standby*2) | 147 W (0.2 W standby*2) | |
| Weight | 824 models | 19.5 kg (without stand), 23.5 kg (with stand) | 24.5 kg (without stand), 30.0 kg (with stand) | |
| | 814 models | 16.0 kg (without stand), 19.5 kg (with stand) | 20.5 kg (without stand), 26.0 kg (with stand) | |
| Operating temperature | | | 0 °C to + 40 °C | |

^{*1} The HDMI 2 and EXT 3 terminals can both use the same audio input terminal.

^{*2} Standby power consumption applies when the TV is set to not receive EPG data.

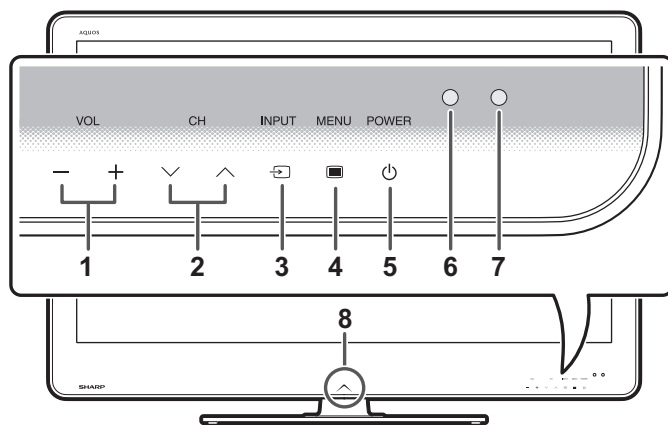
^{*3} The satellite channel's frequency may vary according to satellites and antennas.

- As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

CHAPTER 2. OPERATION MANUAL

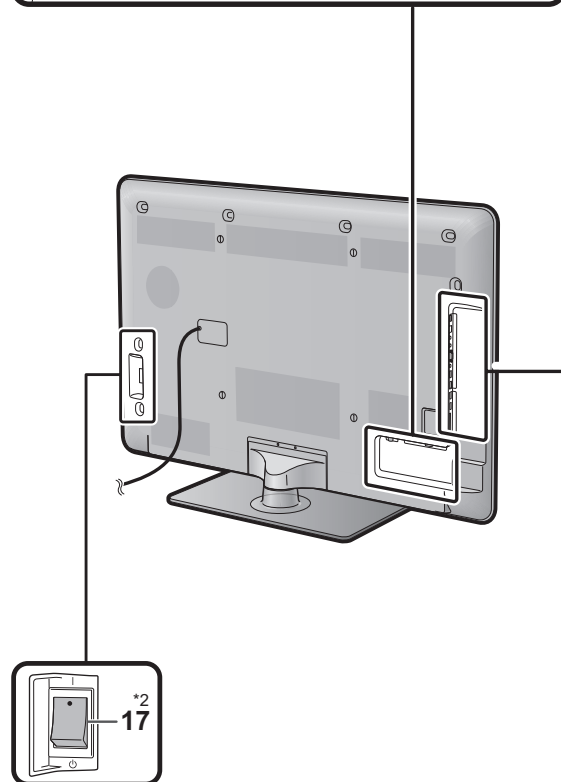
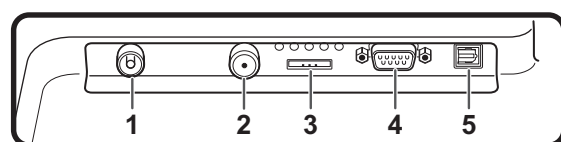
[1] OPERATION MANUAL

TV (front view)



- 1 **VOL** - / + (Volume buttons)
- 2 **CH** ∇ / ∆ (Programme [channel] buttons)
- 3 **INPUT** (Input source button)
- 4 **MENU** (Menu button)
- 5 **POWER** (Power button)
- 6 OPC sensor
- 7 Remote control sensor
- 8 Illumination LED

TV (rear view)



- 1 Antenna terminal
- 2 Satellite antenna terminal
- 3 EXT 1 (RGB) terminal
- 4 RS-232C terminal
- 5 DIGITAL AUDIO OUTPUT terminal
- 6 USB terminal
- 7 ETHERNET (10/100) terminal
- 8 OUTPUT (Headphones/AUDIO (L/R)) terminal
- 9 EXT 2 (AV IN/VIDEO/AUDIO (L/R)) terminal
- 10 EXT 3 (ANALOGUE RGB (PC/COMPONENT)) terminal
- 11 HDMI 2/EXT 3 AUDIO (L/R) jack
- 12 HDMI 1 (HDMI/ARC) terminal
- 13 HDMI 2 (HDMI) terminal
- 14 HDMI 3 (HDMI) terminal
- 15 HDMI 4 (HDMI) terminal
- 16 C.I. (COMMON INTERFACE) slot
- 17 MAIN POWER switch

WARNING

- Excessive sound pressure from earphones and headphones can cause hearing loss.
- Do not set the volume at a high level. Hearing experts advise against extended listening at high volume levels.

*1 The HDMI 2 and EXT 3 terminals can both use the same audio input terminal (HDMI 2/EXT 3 AUDIO (L/R)). However, the proper item must be selected in the "Audio select" menu.

*2 When the MAIN POWER switch is turned off (⏻), the amount of electric power consumed will be reduced to 0.01 W or less. However, unlike when unplugging the AC cord, the power is not completely disconnected.

Remote control unit

1 TV (Standby/On)

2 ATV

Press to access conventional analogue TV mode.

DTV

Press to access digital TV mode.

SAT

Press to access satellite mode.

RADIO

DTV/SAT: Switch between radio and data mode.

- When only data broadcasting (no radio broadcasting) is transmitted by DVB, the radio broadcasting will be skipped.

3 AQUOS LINK buttons

If external equipment such as a AQUOS BD player is connected via HDMI cables and is AQUOS LINK compatible, you can use these AQUOS LINK buttons.

- The four buttons (◀, ▶, ⏮, ⏭) function during time shift (for the 824 model series), Home Network and Net TV.

4 CONTROL

Press to display the panel to operate some functions on the screen.

5 TIME SHIFT

(READY/⏮/⏭/⏮)

Press to temporarily record a programme you are watching if you want to interrupt a programme to answer a phone call, for example.

- This function is available only for the 824 model series.

6 Numeric buttons 0-9

Set the channel.

Enter desired numbers.

- Set the page in teletext mode.
- When the five Nordic countries (Sweden, Norway, Finland, Denmark or Iceland) are selected in the country setting from "Auto installation", DTV services are four digits. When another country is selected, DTV services are three digits.

7 (Flashback)

Press to return to the previously selected channel or external input.

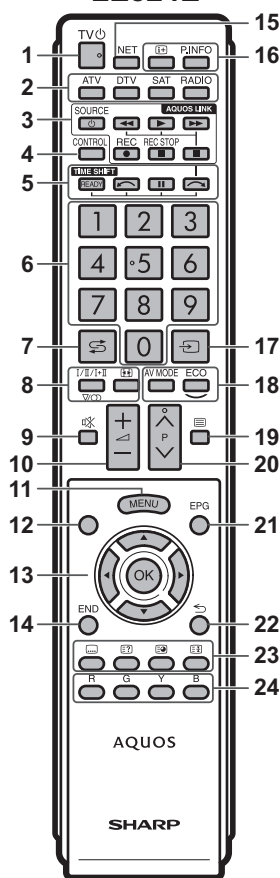
8 (Sound mode)

Select a sound multiplex mode.

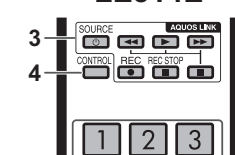
(Wide mode)

Select a wide mode.

LE824E



LE814E



9 (Mute)

TV sound on/off.

10 +/− (Volume)

Increase/decrease TV volume.

11 MENU

"Menu" screen on/off.

12 None

This key does not work on this model.

13 ▲/▼/◀/▶ (Cursor)

Select a desired item.

OK

Execute a command.
ATV/DTV/SAT: Display "CH list" when no other "Menu" screen is running.

14 END

ATV/DTV/SAT: Exit the "Menu" screen.
NET: Return to the start page.

15 NET

Press to access Net TV.

16 (Display information)

Press to display the station information (channel number, signal, etc.) in the upper right corner of the screen.

P. INFO

Press to display programme information transmitted through digital video broadcasting (DTV/SAT only).

17 (INPUT)

Select an input source.

18 AV MODE

Select a video setting.

ECO (Standard/Advanced/Off)

Select "Energy save" setting.

19 (Teletext)

ATV: Display analogue teletext.

DTV/SAT: Select MHEG-5 or teletext for DTV/SAT.

20 P ▲/▼

ATV/DTV/SAT: Select the TV channel.
NET: Scrolls pages up/down.

21 EPG

DTV/SAT: Display the EPG screen.

22 (Return)

ATV/DTV/SAT: Return to the previous "Menu" screen.
NET: Return to the previous page (This may not function for some services).

23 Buttons for useful operations

(Subtitle)

Switch subtitle languages on/off.

(Reveal hidden teletext)

(Subpage)

(Freeze/Hold)

Press to freeze a moving image on the screen.
Teletext: Stop updating teletext pages automatically or release the hold mode.

24 R/G/Y/B (Colour) buttons

The coloured buttons are correspondingly used to select the coloured items on the screen (e.g., EPG, MHEG-5, teletext).

Attaching the stand unit

- Before performing work, spread cushioning over the surface on which you will be laying the TV. This will prevent it from being damaged.

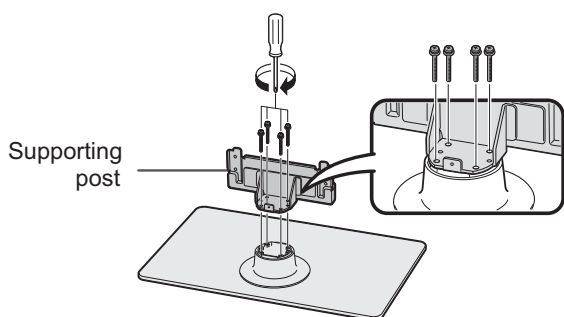
CAUTION

- Attach the stand in the correct direction.
- Be sure to follow the instructions. Incorrect installation of the stand may result in the TV falling over.

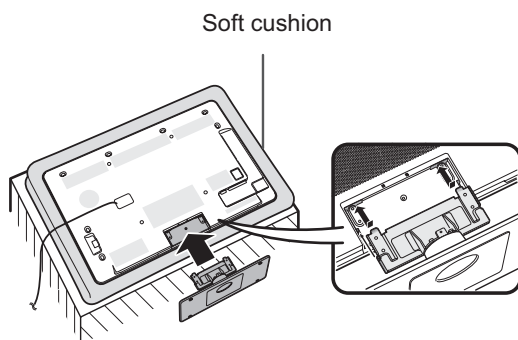
- Confirm that there are nine screws (four long screws and five short screws) with the stand unit.



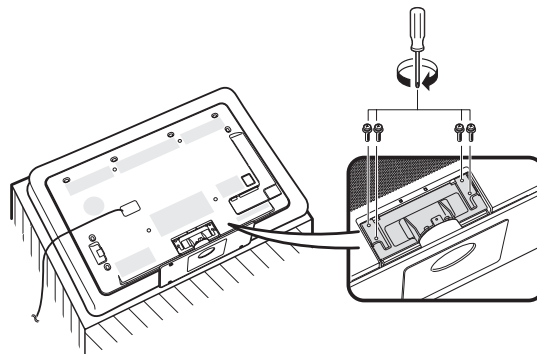
- Attach the supporting post for the stand unit onto the base using the four long screws with a screwdriver as shown.



- Insert the stand into the openings on the bottom of the TV (hold the stand so it will not drop from the edge of the base area).

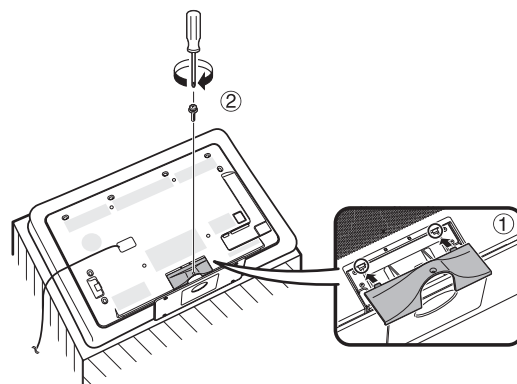


- Insert and tighten four short screws into the four holes on the rear of the TV.



- Attaching the stand cover.

- Slide the stand cover into the two catches on the stand base.
- Insert and tighten a short screw into the hole on the centre of the stand cover.



NOTE

- To detach the stand unit, perform the steps in reverse order.
- A screwdriver is not supplied with this product.
- The stand base is made of glass. Therefore, be careful not to drop the stand base or apply pressure to it.
- Do not place heavy objects on the stand base.

CAUTION

The stand is made of tempered glass. Read the following precautionary instructions carefully and use it properly.

- Do not drop or place unnecessary stress on the stand when assembling and attaching or removing it.
- Be sure to not accidentally hit the glass part of the stand with a sharp or hard object, as it may cause the glass to break.
- Using tempered glass with scratches for extended periods may lead to damage occurring. If there are scratches on the tempered glass, do not attempt to use the stand.

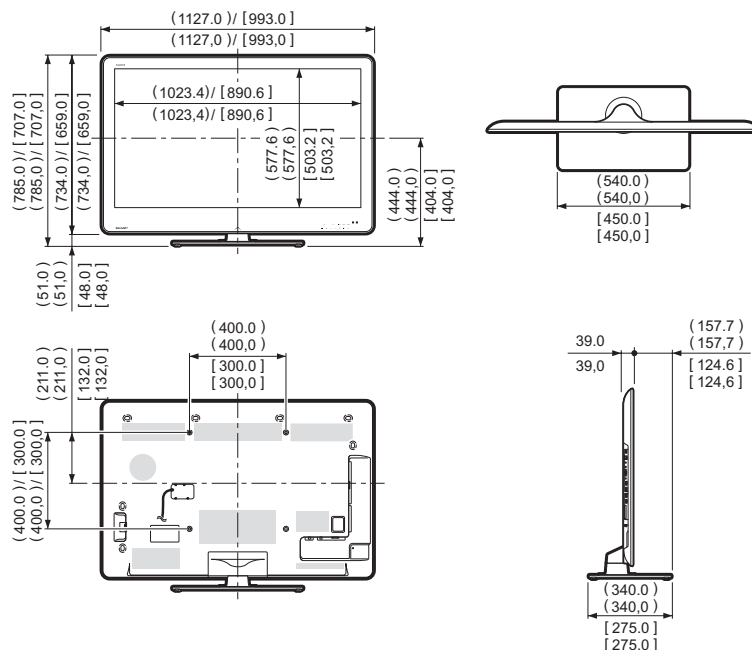
CHAPTER 3. DIMENSIONS

[1] DIMENSIONS

Unit: inch (mm)

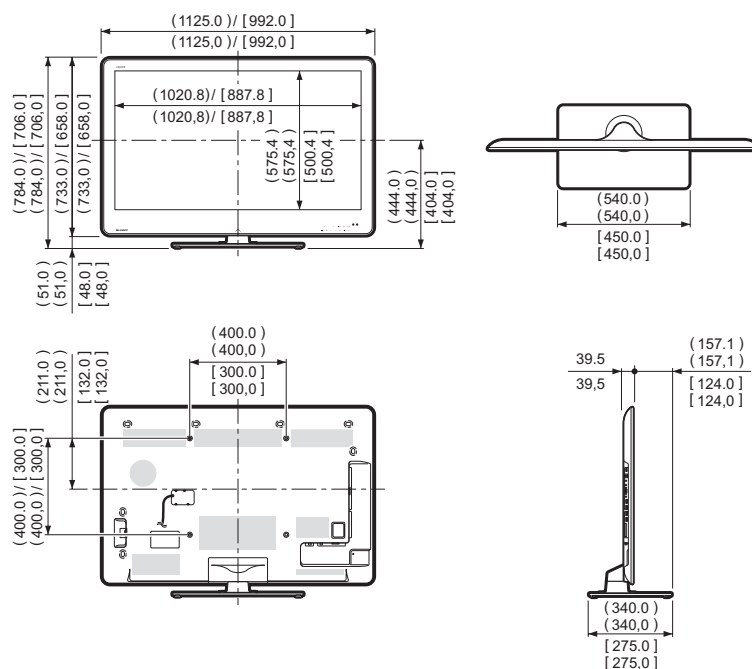
LC-46LE824E LC-46LE824RU
LC-40LE824E LC-40LE824RU

() : LC-46LE824E LC-46LE824RU
[] : LC-40LE824E LC-40LE824RU



LC-46LE814E LC-46LE814RU
LC-40LE814E LC-40LE814RU

() : LC-46LE814E LC-46LE814RU
[] : LC-40LE814E LC-40LE814RU



NOTE

- Dimensions do not include protrusions such as screws and some parts.

CHAPTER 4. ADJUSTMENT

[1] ADJUSTMENT PROCEDURE

1. Adjustment method after PWB and/or IC replacement due to repair

The unit is set to the optimum at the time of shipment from the factory.

If any value should become improper or any adjustment is necessary due to the part replacement, make an adjustment according to the following procedure.

1. Procure the following units in order to replace the main unit

MAIN UNIT: DKEYDF455FM11 (LC-40LE814E/RU, LC-46LE814E/RU)
DKEYDF455FM12 (LC-40LE824E/RU, LC-46LE824E/RU)

NOTE: [Caution when replacing ICs in the main unit (IC501, IC2002)]

The above ICs are EEPROMs storing the EDID data of PC, and Monitor microcomputer.

Before replacing the relevant part, procure the following parts in which the data have been rewritten.

| | | |
|--------|----------------|-----------------------|
| IC501 | RH-iXD108WJQZS | PC EDID |
| IC2002 | RH-iXC786WJNJQ | Monitor microcomputer |

NOTE: [Caution when replacing ICs in the main unit (IC8401, IC3302)]

When replacing either IC8401 or IC3302, exchange MAIN units for DKEYDF455FM11/12

Each part should not be individually exchanged.

| | | |
|--------|----------------|----------|
| IC8401 | RH-iXD047WJQZQ | Flash |
| IC3302 | RH-iXC951WJN1Q | Main CPU |

NOTE: HDMI ROM Writing

After replacing IC1504, execute "HDMI EDID WRITE" on the page 5/21

Please execute it after checking MODEL NAME & INCH SIZE. are correct.

IF MODEL NAME & INCH SIZE. are not correct, set them previously. (Refer to 2)

The ROM data based on information of MODEL NAME & INCH SIZE

1) Enter the process adjustment mode in TV.

2) Use the cursor keys (▲/▼) and CH keys (↵/↵) of R/C to select the item [HDMI EDID WRITE] on the page 5/21.

2. After replacing the LCD panel or LCD control/MAIN UNIT, check MODEL NAME in the following procedure.

1) Enter the process adjustment mode in TV.

2) Use the cursor keys (▲/▼) and CH keys (↵/↵) of R/C to select the item [MODEL NAME] on the page 21/21.

3) Verify that the Model name is displayed.

4) If the Model name doesn't match, select the values of the Model name with the VOL keys (+/-).

5) After selection in Step 4), press the OK key, and it is completed with OK displayed.

6) Use the cursor keys (▲/▼) and CH keys (↵/↵) of R/C to select the item [PANEL_SIZE] on the page 21/21.

7) Verify that the panel size is displayed.

8) If the size doesn't match, select the values of the panel size with the VOL keys (+/-).

9) After selection in Step 8), press the OK key, and it is completed with OK displayed.

3. After replacing the LCD panel or LCD control PWB, adjust the VCOM in the following procedure.

1) Enter the process adjustment mode.

2) Use the cursor keys (▲/▼) and CH keys (↵/↵) of R/C to select the item [VCOM ADJ] on the page 10/21.

3) Press the OK key to verify that the adjustment pattern is displayed.

4) Use VOL keys (+/-) of R/C to adjust the flicker in the center of the screen to minimum.

5) When the optimal state is achieved in Step 4, press the OK key to turn the pattern to OFF.

2. Notes of Touch sensor unit (LC-40LE824E/RU, LC-46LE824E/RU)

Touch sensor unit (RUNTKA761WJQZ) is fixed directly in the module glass.

The unit cannot never be recycled when exfoliated from the module glass.

Therefore, please exchange the touch sensor units when the module glass is changed.

Please note the adhesion and mixing of dust for the module glass when the module glass and the touch sensor unit are exchanged.

Module glass for LE824

40inch: CPNLHA019WE14

46inch: CPNLHA020WJ12

3. Method of shuts down for Power supply

Please execute the following procedures to shut down Power supply from the state of normal operation.

- 1) Keep touching the power supply key on the set for 5 seconds from the state of watching.
 - * The screen disappears when power supply key is touched, but Keep pushing the power supply key.
- 2) A central icon lights between 500ms when the power supply shuts down.

Please separate the finger from the power supply key when lighting of a central icon is confirmed

4. Entering and exiting the adjustment process mode

Please execute the following procedures to enter the adjustment process mode when the power supply shuts down.

- 1) While holding down the "VOL (-)" and "INPUT" keys on the set at once, touch the power supply key on the set.

Please separate the fingers from key on the set when boot-up is confirmed with lighting of a central icon etc.

After a while, The letter "K" appears on the screen. This state is in **Inspection mode**.
- 2) Next, hold down the "VOL (-)" and "CH (✓)" keys on the set at once.

Multiple lines of blue characters appearing on the screen indicate that the set is now in **the adjustment Process mode**.

If you fail to enter the adjustment process mode (the display is the same as normal startup), retry the procedure.
- 3) To exit the adjustment process mode after the adjustment is done, unplug the AC power cord to force off the power.

(When the power is turned off with the remote controller, once unplug the AC power cord and plug it in again. In this case, wait for 10 seconds or so after unplugging.)

CAUTION: Use due care in handling the information described here lest the users should know how to enter the adjustment process mode.
If the settings are tampered with in this mode, unrecoverable system damage may result.

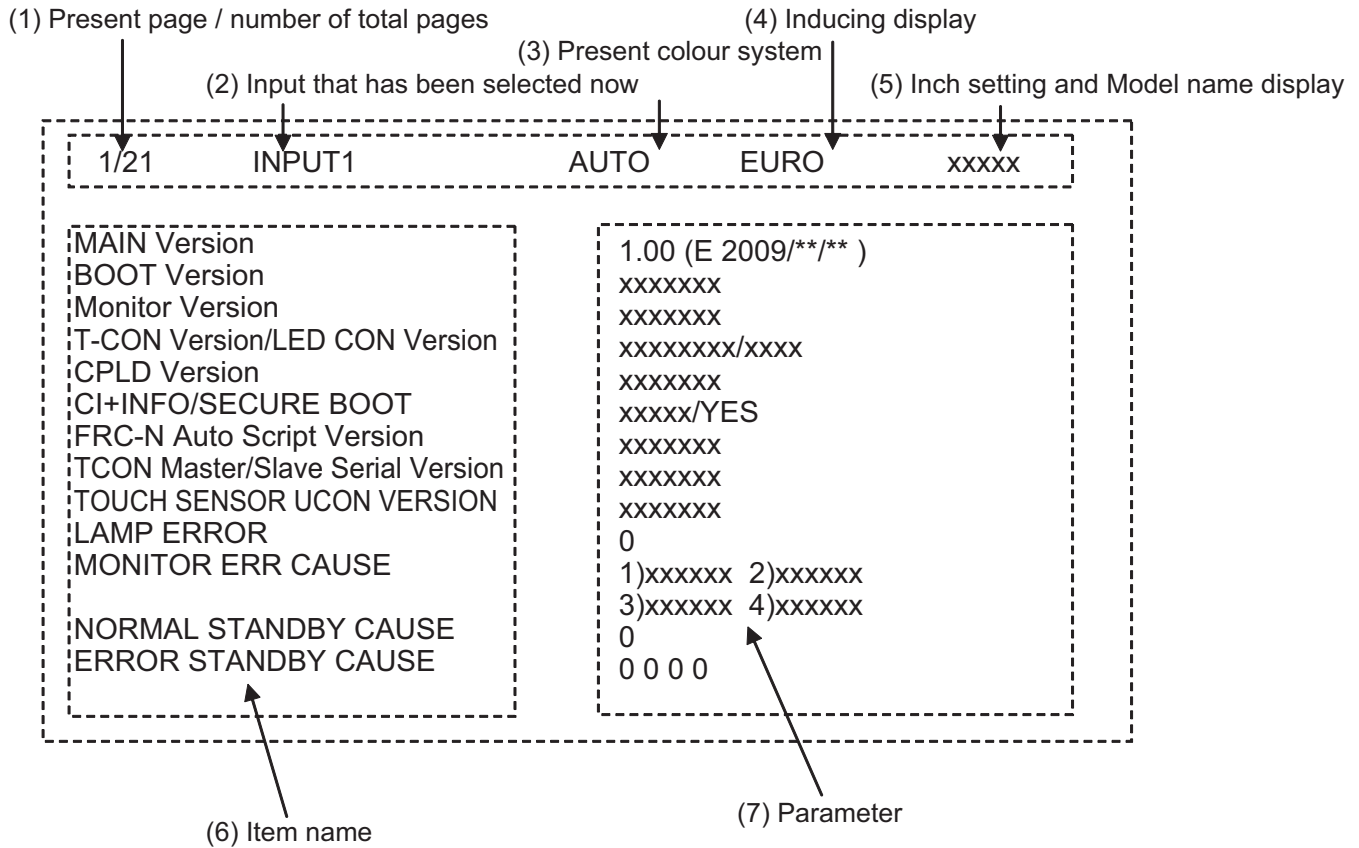
5. Remote controller key operation and description of display in adjustment process mode.

1. Key operation

| Remote controller key | Main unit key | Remote controller key Main unit key Function |
|-----------------------|---------------|--|
| CH keys (↗/↘) | CH (↗/↘) | Moving an item (line) by one (UP/DOWN) |
| VOL keys (+/-) | VOL (+/-) | Changing a selected item setting (+1/-1) |
| Cursor (▲/▼) | — | Turning a page (PREVIOUS/NEXT) |
| Cursor (◀/▶) | — | Changing a selected line setting (+10/-10) |
| INPUT | INPUT | Input source switching (toggle switching) (TV→DTV, Input1~7) |
| OK | — | Executing a function |
| RETURN | — | Returning to a present page |

Input mode is switched automatically when relevant adjustment is started so far as the necessary input signal is available.

6. Description of display



| No. | Description | Display specification |
|-----|-------------------------------------|--|
| (1) | Present page/number of total pages | 2char/2char Decimal Number mark. |
| (2) | Input that has been selected now | TUNER/DTV/INPUT1/INPUT2/INPUT3/INPUT5/INPUT6/INPUT7 |
| (3) | Present colour system | AUTO/N358/N443/PAL/SECAM/480i/580i/1080i/50 etc. ... |
| (4) | Inducing display | EUROPE/RUSSIA/SWEDEN |
| (5) | Inch setting and Model name display | Inch setting and Model name display |
| (6) | Item name | Max. 30 char |
| (7) | Parameter | Max. 60 char |

7. Adjustment process mode menu

The character string in brackets [] will appear as a page title in the adjustment process menu header.

| Page | Line | Item | Description | Remarks (adjustment detail, etc.) |
|------|------|----------------------------------|--|---|
| 1/21 | | | | |
| | 1 | MAIN Version | 1xxx (xxxxx) | Main software version |
| | 2 | BOOT Version | xxxxxxx | BOOT Version. |
| | 3 | Monitor Version | xxxxxxx | Monitor software version |
| | 4 | T-CON Version/LED CON Version | xxxxxxx/xxxx | T-CON/H.264 Version |
| | 5 | CPLD Version | xxxxxxx | CPLD Version. |
| | 7 | CI+INFO/SECURE BOOT | xxxxx/YES | CI+ Key Information/SECURE BOOT |
| | 8 | FRC-N Auto Script Version | xxxxxxx | |
| | 9 | TCON Master/Slave Serial Version | xxxxxxx | |
| | 10 | TOUCH SENSOR UCON VERSION | xxxxxxx | |
| | 11 | LAMP ERROR | 0 | Number of termination due to lamp error. |
| | 12 | MONITOR ERR CAUSE | 1) xxxxxx 2) xxxxxx 3) xxxxxx 4) xxxxxx | Last error standby cause. |
| | 13 | NORMAL STANDBY CAUSE | 0 | Situation that became standby at the end. (Excluding the error) |
| | 14 | ERROR STANDBY CAUSE | 0 0 0 0 | Error standby cause |
| 2/21 | | | | |
| | 1 | INDUSTRY INIT | Enter | Initialization to factory settings execution. |
| | 2 | INDUSTRY INIT (-Public) | OFF | Initialization to factory settings execution. (Public mode is excluded) |
| | 3 | PUBLIC MODE | OFF | Public mode ON/OFF setting |
| | 4 | Center Acutime | — | Main operating hours. |
| | 5 | RESET | OFF | Main operating hours reset. |
| | 6 | Backlight Acutime | — | Backlight operating hours. |
| | 7 | RESET | OFF | Backlight operating hours reset. |
| | 8 | LAMP ERROR RESET | OFF | Lamp error reset. |
| | 9 | ADJ PARAM SET | Enter | ADJ PARAM SET |
| | 10 | VIC XPOS | 0 | X-coordinate setting for VIC READ |
| | 11 | VIC YPOS | 0 | Y-coordinate setting for VIC READ |
| | 12 | VIC SIGNAL TYPE | MAIN | Signal type setting for VIC READ |
| | 13 | VIC READ | OFF | Picture level acquisition function (Level appears in green on the upper right) |
| 3/21 | | | | |
| | 1 | TUNER ADJ | Enter | TUNER auto adjustment execution |
| | 2 | PAL+TUNER ADJ | Enter | PAL TUNER auto adjustment execution |
| | 3 | TUNER ADJ (SMPTE) | Enter | TUNER auto adjustment execution (SMPTE) |
| | 4 | PAL+TUNER ADJ (SMPTE) | Enter | PAL TUNER auto adjustment execution (SMPTE) |
| | 5 | TUNER ADJ (SMPTE CH57) | Enter | TUNER auto adjustment execution (SMPTE CH57) |
| | 6 | PAL+TUNER ADJ (SMPTE CH57) | Enter | PAL TUNER auto adjustment execution (SMPTE CH57) |
| | 7 | TUNER CONTRAST A_GAIN | 16 | TUNER signal level adjustment |
| | 8 | TUNER CONTRAST D_GAIN | 2073 | TUNER signal level adjustment |
| | 9 | TUNER CONTRAST OFFSET | 256 | TUNER signal level adjustment |
| 4/21 | | | | |
| | 1 | PAL ADJ | Enter | PAL adjustment |
| | 2 | SECAM ADJ | Enter | SECAM adjustment |
| | 3 | N358 ADJ | Enter | N358 adjustment |
| | 4 | PAL CONTRAST A_GAIN | 14 | PAL contrast adjustment |
| | 5 | PAL CONTRAST D_GAIN | 2149 | PAL contrast adjustment |
| | 6 | PAL CONTRAST OFFSET | 255 | PAL contrast adjustment |
| | 7 | SECAM CONTRAST A_GAIN | 14 | SECAM contrast adjustment |
| | 8 | SECAM CONTRAST D_GAIN | 2123 | SECAM contrast adjustment |
| | 9 | SECAM CONTRAST OFFSET | 256 | SECAM contrast adjustment |
| | 10 | N358 CONTRAST A_GAIN | 14 | N358 contrast adjustment |
| | 11 | N358 CONTRAST D_GAIN | 2192 | N358 contrast adjustment |
| | 12 | N358 CONTRAST OFFSET | 255 | N358 contrast adjustment |

| Page | Line | Item | Description | Remarks (adjustment detail, etc.) |
|-------|------|--------------------------|-------------|--|
| 5/21 | | | | |
| | 1 | HDMI CEC TEST | Enter | HDMI CEC test |
| | 2 | INSPECT USB TERM | Enter | Reading inspection of USB memory terminal |
| | 3 | HDMI EDID WRITE | Enter | HDMI EDID WRITING |
| | 4 | MONIDATA READ [TEMP/OPC] | OFF | MONITOR Temperature/OPC Acquisition tool. |
| | 5 | CAUSE RESET | Enter | Reset of standby cause |
| | 6 | SD CARD TEST | Size 1 | SD CARD TEST (*This item is LC-40/46LE824E/RU only) |
| | 7 | SD CARD REC SIZE | xx | SD CARD REC SIZE (*This item is LC-40/46LE824E/RU only) |
| 6/21 | | | | |
| | 1 | COMP15K ALL ADJ | Enter | Component 15K picture level adjustment |
| | 2 | COMP15K MAIN Y GAIN | 141 | Y GAIN adjustment value |
| | 3 | COMP15K MAIN CB GAIN | 150 | Cb GAIN adjustment value |
| | 4 | COMP15K MAIN CR GAIN | 150 | Cr GAIN adjustment value |
| | 5 | COMP15K Y OFFSET | 64 | Y OFFSET adjustment value |
| | 6 | COMP15K CB OFFSET | 128 | Cb OFFSET adjustment value |
| | 7 | COMP15K CR OFFSET | 128 | Cr OFFSET adjustment value |
| 7/21 | | | | |
| | 1 | HDTV ADJ | Enter | HDTV video level adjustment |
| | 2 | HDTV Y GAIN | 141 | HDTV Y GAIN adjustment value |
| | 3 | HDTV CB GAIN | 150 | HDTV Cb adjustment value |
| | 4 | HDTV CR GAIN | 150 | HDTV Cr adjustment value |
| | 5 | HDTV Y OFFSET | 64 | HDTV Y OFFSET adjustment value |
| | 6 | HDTV CB OFFSET | 128 | HDTV Cb OFFSET adjustment value |
| | 7 | HDTV CR OFFSET | 128 | HDTV Cr OFFSET adjustment value |
| 8/21 | | | | |
| | 1 | ANALOG PC ADJ | Enter | DVI ANALOG video level adjustment |
| | 2 | R OFFSET | 64 | R CUTOFF adjustment value |
| | 3 | G OFFSET | 64 | G CUTOFF adjustment value |
| | 4 | B OFFSET | 64 | B CUTOFF adjustment value |
| | 5 | R GAIN | 44 | R DRIVE adjustment value |
| | 6 | G GAIN | 44 | G DRIVE adjustment value |
| | 7 | B GAIN | 44 | B DRIVE adjustment value |
| 9/21 | | | | |
| | 1 | SCART RGB ADJ | Enter | SCART RGB level adjustment |
| | 2 | SCART R CUTOFF | 64 | SCART R CUTOFF adjustment value |
| | 3 | SCART G CUTOFF | 64 | SCART G CUTOFF adjustment value |
| | 4 | SCART B CUTOFF | 64 | SCART B CUTOFF adjustment value |
| | 5 | SCART R GAIN | 44 | SCART R GAIN adjustment value |
| | 6 | SCART G GAIN | 44 | SCART G GAIN adjustment value |
| | 7 | SCART B GAIN | 44 | SCART B GAIN adjustment value |
| 10/21 | | | | |
| | 1 | VCOM ADJ | 0 | Common bias adjustment |
| 11/21 | | | | |
| | 1 | R GAIN (LO) | 0 | R DRIVE adjustment value |
| | 2 | G GAIN (LO) | 0 | G DRIVE adjustment value |
| | 3 | B GAIN (LO) | 0 | B DRIVE adjustment value |
| | 4 | R GAIN (HI) | 0 | R DRIVE adjustment value |
| | 5 | G GAIN (HI) | 0 | G DRIVE adjustment value |
| | 6 | B GAIN (HI) | 0 | B DRIVE adjustment value |
| 12/21 | | | | |
| | 1 | MONITOR TIME OUT | ON | Monitor and the main communication time-out setting |
| | 2 | MONITOR MAX TEMP | 45 | MONITOR MAX temperature setting |
| | 3 | MONITOR EEP READ/WRITE | WRITE | MONITOR EEPROM READ/WRITE Setting/execution |
| | 4 | MONITOR EEP ADR | 0x 0 | MONITOR EEPROM arbitrary addressing |
| | 5 | MONITOR EEP DATA | 0x 0 | MONITOR EEPROM arbitrary data specification |
| 13/21 | | | | |
| | 1 | LCD TEST PATTERN | OFF | Pattern with built-in LCD controler display |
| | 2 | LCD TEST PATTERN 1 | OFF | |
| | 3 | LCD TEST PATTERN 2 | OFF | |
| | 4 | LCD TEST PATTERN 3 | OFF | |
| | 5 | LCD TEST PATTERN 4 | OFF | |

| Page | Line | Item | Description | Remarks (adjustment detail, etc.) |
|-------|------|---------------------------------|-------------|-----------------------------------|
| 14/21 | | | | |
| | 1 | FRV-N Firmware Version | xxxxx | |
| | 2 | FRC-N Boot Script Version | xxxxx | |
| | 3 | FRC-N Device Version | xxxxx | |
| | 4 | TCON FPGA1 Serial Flash Version | xxxxx | |
| | 5 | TCON FPGA2 Serial Flash Version | xxxxx | |
| | 6 | TCON FPGA1 Config Rom Version | xxxxx | |
| | 7 | TCON FPGA2 Config Rom Version | xxxxx | |
| 15/21 | | | | |
| | 1 | POWER LED BRIGHTNESS | 0 | |
| | 2 | MENU LED BRIGHTNESS | 0 | |
| | 3 | INPUT LED BRIGHTNESS | 0 | |
| | 4 | CH UP LED BRIGHTNESS | 0 | |
| | 5 | CH DOWN LED BRIGHTNESS | 0 | |
| | 6 | VOL UP LED BRIGHTNESS | 0 | |
| | 7 | VOL DOWN LED BRIGHTNESS | 0 | |
| | 8 | LOGO LED BRIGHTNESS | 99 | |
| | 9 | ICON LED BRIGHTNESS | 99 | |
| | 10 | ICON LED BRIGHTNESS (STANDBY) | 30 | |
| 16/21 | | | | |
| | 1 | POWER KEY SENSITIVITY | 0 | |
| | 2 | MENU KEY SENSITIVITY | 0 | |
| | 3 | INPUT KEY SENSITIVITY | 0 | |
| | 4 | CH UP KEY SENSITIVITY | 0 | |
| | 5 | CH DOWN KEY SENSITIVITY | 0 | |
| | 6 | VOL UP KEY SENSITIVITY | 0 | |
| | 7 | VOL DOWN KEY SENSITIVITY | 0 | |
| 17/21 | | | | |
| | 1 | KEY STRENGTH GET MODE | Enter | |
| | 2 | POWER KEY STRENGTH | | |
| | 3 | MENU KEY STRENGTH | | |
| | 4 | INPUT KEY STRENGTH | | |
| | 5 | CH UP KEY STRENGTH | | |
| | 6 | CH DOWN KEY STRENGTH | | |
| | 7 | VOL UP KEY STRENGTH | | |
| | 8 | VOL DOWN KEY STRENGTH | | |
| 18/21 | | | | |
| | 1 | READ/WRITE | READ | Read/Write |
| | 2 | SLAVE/ADDRESS | SLAVE0 | Slave address |
| | 3 | REGISTER ADDRESS | 0x 0 | Register address |
| | | | 0x 0 | |
| | 4 | WRITE DATA | 0x 0 | Writing data |
| | | | 0x 0 | |
| | 5 | READ DATA | 0x 0 | Reading data |
| | | | 0x 0 | |
| 19/21 | | | | |
| | 1 | RF AGC BG | 6 | RF-AGC BG adjustment execution |
| | 2 | RF AGC DK | 5 | RF-AGC DKG adjustment execution |
| | 3 | RF AGC I | 6 | RF-AGC I adjustment execution |
| | 4 | RF AGC L/L' | 4 | RF-AGC L/L' adjustment execution |
| 20/21 | | | | |
| | 1 | ERROR STANDBY CAUSE 1 | NO RECORD | ERROR STANDBY CAUSE |
| | 2 | ERROR STANDBY CAUSE 2 | NO RECORD | |
| | 3 | ERROR STANDBY CAUSE 3 | NO RECORD | |
| | 4 | ERROR STANDBY CAUSE 4 | NO RECORD | |
| | 5 | ERROR STANDBY CAUSE 5 | NO RECORD | |
| | 6 | STANDBY CAUSE RESET | OFF | Reset stand by cause. |

| Page | Line | Item | Description | Remarks (adjustment detail, etc.) |
|-------|------|---------------------------|-------------|--|
| 21/21 | | | | |
| | 1 | EEP SAVE | OFF | Writing setting values to EEPROM. |
| | 2 | EEP RECOVER | OFF | Reading setting values from EEPROM. |
| | 3 | MONITOR ERROR CAUSE RESET | OFF | Reset of monitor error cause |
| | 4 | MODEL NAME | LE824 | MODEL NAME |
| | 5 | PANEL SIZE | 40 | Panel size setting. |
| | 6 | SHORT CHECK MODE | Enter | Check LED Back light |
| | 7 | SHORT CHECK CURRENT | 60 | |
| | 8 | CURRENT SW | LOW | |
| | 9 | PRODUCT EEP ADR | 0x 0 | Don't touch when serving (for producer of factory) |
| | 10 | PRODUCT EEP DATA | 0x 0 | Don't touch when serving (for producer of factory) |
| | 11 | PRODUCT FACTORY | 1 | Don't touch when serving (for producer of factory) |

8. Special features

1. NORMAL STANDBY CAUSE (Page 1/21)

Display of a cause (code) of the last standby.

The cause of the last standby is recorded in EEPROM whenever it is possible.

Checking this code will be useful in finding a problem when you repair the troubled set.

2. EEP SAVE (Page 21/21)

Storage of EEP adjustment value

3. EEP RECOVER (Page 21/21)

Retrieval of EEP adjustment value from storage area.

4. MONITOR ERR CAUSE (Page 1/21)

Display of a cause (code) of Error from sub-Microcomputer.

The cause of Error is recorded in EEPROM whenever it is possible.

Checking this code will be useful in finding a problem when you repair the troubled set.

1) This displays Error code and time when the error occurred.

The latest error is displayed on "1)"

The error that happens ahead of "1)" is displayed on "2)".

2) The character depends on the way how to acquire Time Information

T: Time is acquired from digital broadcasting

This doesn't contain "Time offset" which is considered a time difference and Daylight-Saving Time, etc. ...

U: Time is acquired from analog broadcasting (teletext)

B: Accumulation time of Backlight

In the case that Time information cannot be acquired, "B" is displayed.

Example) In this example, it is shown that the error occurred 3 times.

1) 16 T07/01/01 12:03 Error code: 16 (lamp error) Time: 07/01/01 12:03

* It is latest Error.

* Time is acquired from digital broadcasting.

* Time is UTC which doesn't have Time offset.

2) 16 U01/01/01 04:07 Error code: 16 (lamp error) Time: 07/01/01 04:07

* It is Error that happens ahead of "1)".

* Time is acquired from analogue broadcasting.

3) 16 B00000004:11 Error code: 16 (lamp error) Accumulation time: It is displayed that 4:11 have passed after Backlight driving.

* It is Error that happens ahead of "2)".

4) 00 00000000000000 No error ("00" shows that the error is not occurred.)

9. Lamp Error detection

1. Function

This LCD colour TV set incorporates a Lamp error detection feature that automatically turns off the power for safety under abnormal lamp or lamp circuit conditions. If by any chance anything is wrong with the lamp or lamp circuit or if the lamp error detection feature is activated for some reason, the following will result.

- 1) The power is interrupted in about 500ms after it is turned on.

(A central icon on the front of the TV flash on and off.: ON for 400ms and OFF for 1600ms.).

- 2) If the above phenomenon 1) occurs 5 times, it becomes impossible to turn on the power.

(A central icon keep flashing on/off.)

2. Measures

- 1) Set the lamp error detection to OFF

Enter the adjustment process mode, referring to "4. Entering and exiting the adjustment process mode."

The adjustment process mode can ignore "5 times count", so If the above phenomenon 1) occurs 1~4 times, the lamp will go out.

If Lamp Error detection pin (6pin of LB: P9602) is "High" by a trouble with the lamp and lamp circuit, it can boot-up by the adjustment process mode.

Please execute "**Lamp Error detection off-mode**".

While holding down the "VOL (-)" and "CH (^)" keys on the set at once, touch the power supply key on the set.

After a central icon flash off, separate the fingers from key on the set.

Touch the power supply key on the set again, so the power will boot-up.

Then, you can check the operation to see if the lamp and lamp circuit are in trouble.

If you fail boot-up, retry the procedure.

- 2) Resetting the lamp error count

After the lamp and lamp circuit are improved from a trouble, reset the lamp error count.

(Because the power cannot be turned on, if a lamp error is detected 5 consecutive times)

- a) Enter the adjustment process mode, referring to "4. Entering and exiting the adjustment process mode."

- b) Using the cursor (▲/▼) key, move to the cursor to [LAMP ERROR RESET], Line 8 on adjustment process mode service page 2/21.

- c) With the cursor (◀/▶) keys, select the [LAMP ERROR RESET] value.

Finally press the cursor (OK)., the count is reset.

Check LAMP ERROR Count on adjustment process mode Page 2/21.

Table of contents of adjustment process mode Page 2/21

| | | |
|-------------------------|-------|--------------------|
| INDUSTRY INIT | Enter | |
| INDUSTRY INIT (-Public) | OFF | |
| PUBLIC MODE | OFF | |
| Center Acutime | ... | |
| RESET | OFF | |
| Backlight Acutime | ... | |
| RESET | OFF | |
| LAMP ERROR RESET | OFF | ← Resetting to "0" |
| ADJ PARAM SET | Enter | |
| VIC XPOS | 0 | |
| VIC YPOS | 0 | |
| VIC SIGNAL TYPE | MAIN | |
| VIC READ | OFF | |

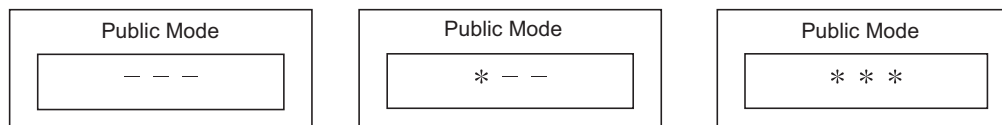
10. Public Mode

1. Starting the Public Mode

- There are two following ways to display the PUBLIC Mode setting screen.

1) Method of needing password

- Turn off the power, refer to "3. Method of shuts down for Power supply"
- While holding down the "INPUT" and "Volume (+)" keys on the set at once, touch the power supply key on the set.
Please separate the finger from the power supply key when boot-up is confirmed with lighting of a central icon etc.
After a while, value of Public Mode appears on the screen.
- Display the Pass Word input screen.



Operation procedure

- The initial input position is the digit at the left end.
 - For the numeric keys "0" to "9" of R/C, key input is accepted.
Input of the other keys is prohibited.
 - Change "—" to "*" by inputting the numeric key at the input position, and shift the input position rightward one digit.
 - When three digits are completely input, the Pass Word is judged.
- Check the Pass Word by inputting three digits.
If the Pass Word "0" "2" "7", it shifts to the PUBLIC Mode setting screen.
In another case, the screen is erased, and it operates in the ordinary mode.

2. Exiting the Public Mode Setting screen

- There are two following ways to exit the Public Mode setting screen.

1) Turn off the power.

2) Select "Execution" in the PUBLIC_Mode to execute it.

Activate the restart under the set content.

Here, the START input SOURCE setting is excluded since this item is referred to only when the power is turned on.

3. Set value of the Public Mode

- When the shipment setting is done, a set each value in Public Mode is initialized.
(PUBLIC MODE in the process mode Setting of a flag is also initialized)
- Separately, the shipment beginnings when all except for each set value in Public Mode is initialized are provided for a process mode.
(INDUSTRY INIT (-Public))
- Only when turning on the PUBLIC MODE item, each setting is effective.
- After it decides it with EXECUTE, it AC OFF/ON it to reflect a set value.

4. Basic operation in the Public Mode

| | |
|---------------------------|--|
| Vol (+/-) or Cursor (◀/▶) | Change or execution of the set value. |
| CH (∧/∨) or Cursor (▲/▼) | Movement to the selected item. |
| Decision (ok) | Execution (Used by the items "Execution" and "RESET".) |

Public Mode setting screen.

| | |
|--------------------|------------|
| Public Mode | |
| POWER ON FIXED | [VARIABLE] |
| SHUT DOWN MODE | [NORMAL] |
| MAXIMUM VOLUME | [60] |
| VOLUME FIXED | [VARIABLE] |
| VOLUME FIXED LEVEL | [20] |
| RC BUTTON | [RESPOND] |
| PANEL BUTTON | [RESPOND] |
| MENU BUTTON | [RESPOND] |
| AV POSITION FIXED | [VARIABLE] |
| ON SCREEN DISPLAY | [YES] |
| INPUT MODE START | [NORMAL] |
| INPUT MODE FIXED | [VARIABLE] |
| LOUD SPEAKER | [ON] |
| RC PATH THROUGH | [OFF] |
| 232C POWON | [DISABLE] |
| PUBLIC MODE | [ON] |
| RESET | |
| EXECUTE | |

5. Operation after "RESET"

Select "RESET" in the PUBLIC Mode, and it operates as follows when it is executed (refer to the basic operation).

- The set contents in the PUBLIC mode are initialized.
- It does not exit the PUBLIC mode.
- If "EXECUTE" is not executed, the content that does RESET is not reflected.

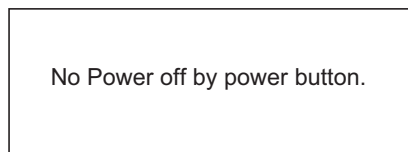
6. Setting items (* Item names and selective items are expressed in English.)

1) Power ON fixed [POWER ON FIXED]

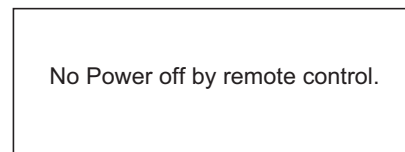
| | |
|--|---|
| Option | "VARIABLE", "FIXED_ALL", "FIXED_BODYKEY" or "RCRESPOND" (loop enabled) |
| Default | "VARIABLE" |
| Function | <ul style="list-style-type: none"> • VARIABLE : "POWER/RECEPTION" key on TV unit or remote control is enabled. • FIXED_ALL : "POWER/RECEPTION" key on TV unit or remote control is disabled. • FIXED_BODYKEY : only the "MAIN POWER" key on TV unit is disabled (the remote control is enabled). • RC RESPOND : the main unit's POWER switch toggles between ON and Standby (the same operation by the remote control). |
| Key disabled when set other than default | <ul style="list-style-type: none"> • OFF TIMER (SLEEP) (* Only when setting to FIXED_ALL) |
| Remarks | <ul style="list-style-type: none"> • When selecting to "FIXED_ALL", function related standby factors (see below) doesn't work. and not selecting OFF TIMER (Sleep) No operation OFF No signal OFF (including the power management) * These items does not exist according to the model. |

If the power button is pressed in the ordinary mode in setting to "FIXED_ALL" and "FIXED_BODYKEY", the caution is displayed for 5 seconds.

When power button on the main unit is pressed



When power button on R/C is pressed



* The OSD display is an example.

If another ODS is previously displayed, the status is reset (MENU or similar).

2) Instantaneous current shutdown setting in turning off the power [SHUT DOWN MODE]

| | |
|----------|---|
| Option | "NORMAL" or "QUICK" |
| Default | NORMAL |
| Function | <ul style="list-style-type: none"> This function decides whether scanning digital tuner is enabled or disabled when the power is standby. <p>NORMAL : Scanning digital tuner is enabled when the power is standby.</p> <p>QUICK : Scanning digital tuner is disabled</p> <p>It is possible to put into the standby state instantaneously due to power off input, when the power is standby.</p> <p>Immediately, state is a complete standby.</p> |
| Remarks | <p>In selecting "QUICK", the function does not work for the following items (selection impossible.)</p> <ul style="list-style-type: none"> ON TIMER, QUICK START, DIGITAL FIXED, etc. * These items does not exist according to the model. |

3) Volume maximum level [MAXIMUM VOLUME]

| | |
|----------|---|
| Option | 0~60 (loop disabled) |
| Default | 60 |
| Function | The volume cannot be increased more than the adjusted value (the main unit's speaker only). |
| Remarks | <ul style="list-style-type: none"> When setting to 59 or less, only the figure is displayed in the normal mode; the volume bar is not displayed. The volume of the headphones is limited. or monitor output The setting is impossible when VOLUME FIXED is set to FIXED. |

4) Volume fixed [VOLUME FIXED]

| | |
|------------------------------------|---|
| Option | "VARIABLE", "FIXED", "ACCTRL" or "AC/RCCTRL" (loop enabled) |
| Default | "VARIABLE" |
| Function | <ul style="list-style-type: none"> VARIABLE : The volume is not fixed. FIXED : The volume is fixed to the value adjusted in the volume fixed level. AC CTRL : The unit starts at the volume specified in the volume fixed level, when power is turned on in the case of the AC-ON only. AC/RC CTRL : The unit starts at the volume specified in the volume fixed level, when power is turned on in any case. (AC→ON, remote control→ON, main unit's key→ON) |
| Exception | <ul style="list-style-type: none"> In the adjustment process, the volume can be set to any level regardless of this setting. |
| Disabled key when setting to FIXED | <ul style="list-style-type: none"> VOLUME UP/DOWN [both remote control and main unit] MUTE |
| Remarks | <ul style="list-style-type: none"> [MAXIMUM VOLUME] has priority to [VOLUME FIXED] * When setting to FIXED, Maximum volume is fixed. The volume of the headphones is fixed. When setting to "FIXED", the volume is not displayed in operating Disabled key In menu operation, the main unit's keys (Vol (+/-)) are enabled. |

5) Volume fixed level [VOLUME FIXED LEVEL]

| | |
|-----------|---|
| Option | 0~60 (loop disabled) |
| Default | 20 |
| Function | The volume is fixed to the adjusted value (the main unit's speaker only). |
| Exception | <ul style="list-style-type: none"> In the adjustment process, the volume can be set to any level regardless of this setting. |
| Remarks | <ul style="list-style-type: none"> When [VOLUME FIXED] is set to "VARIABLE", the setting cannot be changed. |

6) Remote control operation [RC BUTTON]

| | |
|-----------|---|
| Option | "RESPOND", "NORESPOND" or "LIMITED" (loop enabled) |
| Default | "RESPOND" |
| Function | <p>The operation of the remote control's keys is set.</p> <p>RESPOND : the remote control's keys in the normal state are enabled.</p> <p>NO RESPOND : the remote control's keys in the normal state are disabled.</p> <p>The POWER key (RECEPTION/STANDBY key) is also disabled.</p> <p>LIMITED : only a part of keys (CHANNEL, etc.) is enabled and other keys are disabled.</p> |
| Exception | <ul style="list-style-type: none"> In the adjustment process mode, inspection mode are enabled regardless of this setting. All the keys are enabled regardless of this setting while entering the adjustment process mode, inspection mode or Public Mode setting screen. |
| Remarks | <p>The enable keys when setting to "LIMITED" are depended on keys of controller for Public.</p> <p>It is different according to Model.</p> |

7) Main Unit Operation [PANEL BUTTON]

| | |
|-----------|---|
| Option | "RESPOND" or "NORESPOND" (loop enabled) |
| Default | "RESPOND" |
| Function | <ul style="list-style-type: none"> • RESPOND : The main unit's keys are enabled. • NO RESPOND : The main unit's keys are disabled excluding the POWER key (RECEPTION/STANDBY key). |
| Exception | <ul style="list-style-type: none"> • The start operation in the adjustment process mode, inspection mode are enabled regardless of this setting. • All the keys are enabled regardless of this setting while entering the adjustment process mode, inspection mode or Public Mode setting screen. • For the models with the MENU key on the main unit, menu operation is possible regardless of the setting during the initial setting when the power is turned on for the first time. |

8) Menu operation [MENU BUTTON]

| | |
|---|---|
| Option | "RESPOND" or "NO RESPOND" (loop enabled) |
| Default | "RESPOND" |
| Function | The MENU key on the main unit and remote control is decided whether it is enabled or disabled. |
| Exception | <ul style="list-style-type: none"> • RESPOND : The menu key is enabled. • NO RESPOND : The menu key is disabled. : The start operation in the adjustment process mode, inspection mode is enabled regardless of this setting. : All the keys are enabled regardless of this setting while entering the process mode, inspection mode or Public Mode setting screen. |
| Disabled key excluding Menu key when setting to not default | All the direct transition keys to menu display (AUTO PRESET, MANUAL MEMORY and others) * These keys does not exist according to the model. |
| Remarks | When setting to "NO RESPOND" <ul style="list-style-type: none"> • For the models with the MENU key on the main unit, menu operation is possible regardless of the setting while the initial setting when the power is turned on for the first time |

9) AV position fixed [AV POSITION FIXED]

| | |
|----------|---|
| Option | "VARIABLE" or "FIXED" (loop enabled) |
| Default | "VARIABLE" |
| Function | <ul style="list-style-type: none"> • VARIABLE : AV position is not fixed. • FIXED : AV position is fixed. : The image/sound adjustment items in the menu are fixed in the selected state. : When receiving "AV POSITION" of the remote control, only the actual state is displayed, and setting is not changed. |
| Remarks | <ul style="list-style-type: none"> • When receiving the sound select direct keys (AV POSITION key, OPC, DOLBY key, etc.), only the actual state is displayed; no setting is changed. * These keys does not exist according to the model. • The settings for the Public mode are retained after the personal data is initialized, each item for the AV position and image/sound adjustment are not initialized. |

10)OSD display [ON SCREEN DISPLAY]

| | |
|--|--|
| Option | "YES", "NO" or "LIMITED" (loop enabled) "LIMITED" is looped only in case of need (destination). |
| Default | "YES" |
| Function | <ul style="list-style-type: none"> • YES : OSD is displayed • NO : the following OSD is not displayed. Registration, setting, adjustment menu, channel call, volume bar, and input select • LIMITED : only a part of OSD (CH call: "New Information" etc. ...) is not displayed. |
| Key which may be enabled (Example of the confusing key) | <ul style="list-style-type: none"> • It is OK in the case that simple input select occurs or the original state returns soon automatically. |
| Disabled key when setting to not default | <ul style="list-style-type: none"> • When setting to "NO", the keys which are related to visibility of the screen and sound cannot be used. STILL IMAGE, SCREEN DISPLAY, OFF TIMER, AV POSITION, BRIGHTNESS SENSOR, SCREEN SIZE SELECT, AUTO PRESET, MANUAL MEMORY, IMAGE SELECT, SOUND SELECT, LANGUAGE, Closed caption * Disabled keys depend on the models. |
| Remarks | <ul style="list-style-type: none"> • When setting to "NO", ON TIMER (Watching reservation) is cleared. OFF TIMER "SLEEP" is cleared. * These items do not exist according to the model. • When setting to "NO", These Displays (Version-up, Public mode setting screen, Pass Word input screen of Public Mode, the adjustment process mode, K mark of inspection mode) are enabled regardless of this setting. |

11)Start mode [INPUT MODE START]

| | |
|----------|---|
| Option | "NORMAL" or "Input source 1 (input selection or channel)" . . . (loop enabled) |
| Default | "NORMAL" |
| Function | which kinds of input source or channel is decided when the power turning on. NORMAL : the content of the last memory is followed. |
| Remarks | <ul style="list-style-type: none"> • When setting to not Normal, ON TIMER (Watching reservation) has priority. • When setting to "NORMAL", [INPUT MODE FIXED] is set to "VARIABLE". and [INPUT MODE FIXED] is prohibited to select. (selection impossible.) |

Example of option: "NORMAL"

"TVD (002TV)", "INPUT1", "INPUT2", "INPUT3", "HDMI1", "HDMI2", "HDMI3", "HDMI4".

12)Input fixed [INPUT MODE FIXED]

| | |
|--------------------------------------|--|
| Option | "VARIABLE" "FIXED", "ACCTRL" or "AC/RCCTRL" (loop enabled) |
| Default | VARIABLE |
| Function | VARIABLE : If [INPUT MODE START] is set to Normal, input mode is not fixed. FIXED : when "INPUT MODESTART" is active, it is impossible to switch to another channel or input source. AC CTRL : when "INPUT MODESTART" is active the unit starts at the input mode which is selected when power is turned on in the case of the AC-ON only. AC/RC CTRL : when "INPUT MODESTART" is active the unit starts at the input mode which is selected when power is turned on in any case (AC→ON, remote control→ON, main unit's key→ON) |
| Disabled key when setting to "FIXED" | CHANNEL (+/-), DIRECT CHANNEL buttons, FLASHBACK, INPUT SELECT, TV/VIDEO, AUTO PRESET, MANUAL MEMORY, i.LINK, DIRECTINPUTSELECT, ATV, DTV, EPG, RADIO etc. ... |
| Remarks | <ul style="list-style-type: none"> • If [INPUT MODE START] is Normal, this function cannot be set. Set to "VARIABLE" automatically. • When setting to "FIXED", The item related to the channel setting and input selection in Menu are not displayed. ON TIMER (Watching reservation) is not active. * These items do not exist according to the model. |

13)Speaker ON/OFF selection [LOUD SPEAKER]

| | |
|----------|---|
| Option | "ON" or "OFF" (loop enabled) |
| Default | ON |
| Function | ON : The sound from the speakers is output. OFF : The sound from the speakers is not output even if the headphones are not used. |
| Remarks | <ul style="list-style-type: none"> When the VOL (+/-) key is pressed, the mute icon is displayed for 4 seconds. For the MUTE key and sound-related keys, caution is displayed. For the headphones, normal operation is possible. |

14)Remote control path through [RC PATH THROUGH]

| | |
|-----------|---|
| Option | "OFF", "ON: TVRCE" or "ON: TVRCD" (loop enabled) |
| Default | OFF |
| Function | The item decide whether the signal received by the remotecontrol' slight-receiving section is output to the blankpin (9pin) of RS232C. OFF : this function is not active. ON: TVRCE : this function is active, and remote control is active, too ON: TVRCD : this function is active, but remote control is not active |
| Exception | <ul style="list-style-type: none"> In the case of "ON:TV RCD", the start operation in the adjustment process mode, inspection mod are enabled regardless of this setting. In the case of "ON: TV RCD", all the keys are enabled regardless of this setting while entering the adjustment process mode, inspection mode or Public mode setting screen. |
| Remarks | * Remote control path through does not exist according to the model. |

15)232C power ON control [232C POWON]

| | |
|----------|---|
| Option | "ENABLE" or "DISABLE" (loop enabled) |
| Default | DISABLE |
| Function | The item decide whether Power ON by the 232C command is enabled/disabled in the standby state. The same function as 232C command "RSPW". ENABLE : POWR0001 is always enabled. DISABLE : Start-up may be impossible at POWR0001. (If the 232C command reception module is set to OFF, the command is invalid.) |

16)Public mode setting [PUBLIC MODE]

| | |
|----------|--|
| Option | "OFF" or "ON" (loop enabled) |
| Default | OFF |
| Function | The item decide whether Public mode setting menu are enabled or disabled. The same item as [PUBLIC MODE] in the adjustment process menu. OFF : Public mode is not active ON : Public mode is active |
| Remarks | Each operation of the Public mode is impossible unless this item is set to ON. |

11. Video signal adjustment procedure

The adjustment process mode menu is listed in Section 5.

Signal generator level adjustment check (Adjustment to the specified level)

- Composite signal PAL/SECAM : 0.7Vp-p \pm 0.02Vp-p (Pedestal to white level)
- RGB signal : 0.7Vp-p \pm 0.02Vp-p
- 15K component signal (50 Hz) : Y level : 0.7Vp-p \pm 0.02Vp-p (Pedestal to white level)
: PB, PR level : 0.7Vp-p \pm 0.02Vp-p
- 33K component signal (50 Hz) : Y level : 0.7Vp-p \pm 0.02Vp-p (Pedestal to white level)
: PB, PR level : 0.7Vp-p \pm 0.02Vp-p
- ANALOG RGB signal : RGB level : 0.7Vp-p \pm 0.02Vp-p

11.1. Entering the adjustment process mode

Enter the adjustment process mode according to Section 4.

11.2. PAL signal adjustment

| | Adjustment point | Adjustment conditions | Adjustment procedure |
|---|-----------------------------|--|--|
| 1 | Setting | [Signal] PAL Full field colour bar composite signal [Terminal] EXT1 SCART IN | <ul style="list-style-type: none"> Feed the PAL full field colour bar signal (75% colour saturation) to EXT1 SCART IN. <div style="text-align: center;"> <p>[VIDEO input signal]</p> </div> |
| 2 | Auto adjustment performance | Adjustment process [PAL ADJ] page 4/21 | Bring the cursor on [PAL ADJ] and press [OK]. [PAL ADJ OK] appears when finished. |

* **ATTENTION:** Please execute [3. TUNER adjustment] afterwards if you adjust [2. PAL signal adjustment] after all adjustments are completed.


11.3. TUNER adjustment

| | Adjustment point | Adjustment conditions | Adjustment procedure |
|---|-----------------------------|---|---|
| 1 | Setting | [Signal] PAL split field colour Bar RF signal UV [Terminal] TUNER | <ul style="list-style-type: none"> Feed the PAL Split Field colour bar signal (E-12ch) to TUNER. Make sure the PAL colour bar pattern has the sync level of 7:3 with the picture level. Signal level: 55 dB μ V \pm 1dB (75 Ω LOAD) [E-12CH] <div style="text-align: center;"> </div> |
| 2 | Auto adjustment performance | Adjustment process [TUNER ADJ] page 3/21 | Bring the cursor on [TUNER ADJ] and press [OK]. [TUNER ADJ OK] appears when finished. |

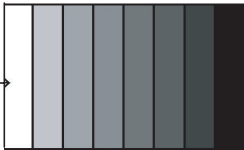
11.4. SECAM adjustment

| | Adjustment point | Adjustment conditions | Adjustment procedure |
|---|-----------------------------|--|--|
| 1 | Setting | [Signal] SECAM Full field colour Bar Signal [Terminal] EXT1 SCART IN | <ul style="list-style-type: none"> Feed the SECAM full field colour bar signal (75% colour saturation) to EXT1 SCART IN. <div style="text-align: center;"> <p>[VIDEO input signal]</p> </div> |
| 2 | Auto adjustment performance | Adjustment process [SECAM ADJ] page 4/21 | Bring the cursor on [SECAM ADJ] and press [OK]. [SECAM ADJ OK] appears when finished. |


11.5. ADC adjustment (Component 15K)

| | Adjustment point | Adjustment conditions | Adjustment procedure |
|---|-----------------------------|---|---|
| 1 | Setting | [Signal] COMP15K, 50Hz 100% Full field colour bar Signal [Terminal] EXT3 COMPONENT IN | <ul style="list-style-type: none"> Feed the COMPONENT 15K 100% full field colour bar signal (100% colour saturation) to EXT3 COMPONENT IN.  |
| 2 | Auto adjustment performance | Adjustment process [COMP15k ALL ADJ] page 6/21 | Bring the cursor on [COMP15k ALL ADJ] and press [OK] [COMP15k ALL ADJ] [OK] appears when finished. |

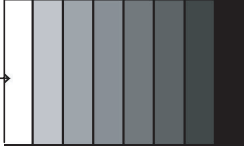
11.6. ADC adjustment (Component 33K)

| | Adjustment point | Adjustment conditions | Adjustment procedure |
|---|-----------------------------|---|---|
| 1 | Setting | [Signal] COMP33K, 50Hz 100% Full field colour bar Signal [Terminal] EXT3 COMPONENT IN | <ul style="list-style-type: none"> Feed the COMPONENT 33K 100% full field colour bar signal (100% colour saturation) to EXT3 COMPONENT IN.  |
| 2 | Auto adjustment performance | Adjustment process [HDTV ADJ] page 7/21 | Bring the cursor on [HDTV ADJ] and press [OK]. [HDTV ADJ OK] appears when finished. |

11.7. PC signal adjustment (ANALOG RPG)

| | Adjustment point | Adjustment conditions | Adjustment procedure |
|---|-----------------------------|--|---|
| 1 | Setting | [Signal] XGA, 60Hz 100% Full Field Colour Bar Signal [Terminal] EXT3 PC IN | <ul style="list-style-type: none"> Feed the XGA 60Hz 100% full field colour bar signal (100% colour saturation) to EXT3 PC IN.  |
| 2 | Auto adjustment performance | Adjustment process [ANALOG PC ADJ] menu page 8/21 | Bring the cursor on [ANALOG PC ADJ] and press [OK]. [ANALOG PC ADJ OK] appears when finished. |

11.8. RGB (SCART) adjustment (RGB 15K)

| | Adjustment point | Adjustment conditions | Adjustment procedure |
|---|-----------------------------|---|--|
| 1 | Setting | [Signal] RGB 15K, 50Hz 100% Full field colour bar signal [Terminal] EXT1 SCART RGB IN | <ul style="list-style-type: none"> Feed the RGB 15k 50Hz 100% full field colour bar signal (100% colour saturation) to EXT1 SCART IN.  |
| 2 | Auto adjustment performance | Adjustment process [SCART RGB ADJ] menu page 9/21 | Bring the cursor on [SCART RGB ADJ] and press [OK]. [SCART RGB ADJ OK] appears when finished. |

12. White Balance Adjustment

For white balance adjustment, adjust the offset values on pages 11/21.

[Condition of the unit for inspection] : Modulated light (+16), Colour temperature (High)

AV MODE: DYNAMIC

Active Backlight: OFF

OPC: OFF

Asing Time: Min,60 minute

[Input signal condition] : HDMI 1080i 15IRE (LO), 78IRE (HI)

[Adjustment reference device] : Minolta CA-210

[Adjustment procedure]

- 1) Display the current adjustment status at R/G/B_GAIN (HI). (Page 11/21 of process adjustment)

The signal of 78IRE is input.

- 2) Read the value of the luminance meter. $x = 0.272$, $y = 0.277$

- 3) Change R_GAIN (HI)/B_GAIN (HI) (Adjustment offset value) on page 11/21 of process adjustment so that the values of the luminance meter approach $x = 0.272$ and $y = 0.277$.

(Basically, G is not changed. If adjustment fails with R and B, change G. When G is lowered, the weaker of R or B must be fixed.)

- 4) Display the adjustment status of the current R/G/B_GAIN (LO).

The signal of 15IRE is input.

Change R_GAIN (LO)/B_GAIN (LO) (adjustment offset value) on page 11/21 of process adjustment so that the values of the luminance meter approach $x = 0.272$ and $y = 0.277$.

- 5) Both HI and LO are repeating the step from 1 to 4 until becoming an aim value.

[Adjustment reference standard value]

Adjustment spec ± 0.002 Inspection spec ± 0.004 (point LO)

Adjustment spec ± 0.001 Inspection spec ± 0.002 (point HI)

- 6) After completing adjustments, set EEP SAVE (21/21) to ON in the process menu to save the white balance adjustment value.

13. Confirmation item

1. HDMI-CEC Inspection

After repairing the CEC function, check the operation about HDMI-CEC circuit

2. CI card Inspection

After repairing the CI function, check that the DTV signal is received in the UK setting by inserting CAM

And check the KEY certification by inserting CAM which is prepare for CI+

3. LAN Inspection

After repairing the LAN function, check the communication by connecting PC and LAN terminal.

14. Initialization to factory settings

CAUTION: When the factory settings have been made, all user setting data, including the channel settings, are initialized.
(The adjustments done in the adjustment process mode are not initialized.) Keep this in mind when initializing these settings.

| | Adjustment point | Adjustment conditions | Adjustment procedure |
|---|------------------|---|---|
| 1 | Factory settings | ends by turning off the MAIN POWER key. (See to below caution) | <p>[Factory setting with adjustment process mode]</p> <ul style="list-style-type: none"> Enter the adjustment process mode. Move the cursor to [INDUSTRY INIT] on page 2/21. Use the R/C key to select a region from [EUROPE/RUSSIA] and press the [OK] key. "EXECUTING" display appears. After a while, "SUCCESS" display appears, the setting is completed. <p>When succeeding: Background colour (green) When failing: Background colour (red)</p> <p>The following items are initialized in the factory setting.</p> <ol style="list-style-type: none"> 1) User settings 2) Channel data (e.g. broadcast frequencies) 3) Maker option setting 4) Password data |

After adjustments, exit the adjustment process mode.

To exit the adjustment process mode, unplug the AC power cord from the outlet to forcibly turn off the power.

When the power is turned off with the remote control, unplug the AC power cord and plug it back in (wait approximately 10 seconds before plugging in the AC power cord)

Please execute the initialized in the factory setting again when you turn on the power supply after the initialized in the factory setting is set.

15. Upgrading the software

1. Turn on the AC power.
2. Insert the upgrading USB flash memory for upgrade into the service slot.
(After a while, an external input changes into USB automatically.)
3. Use the Menu button and cursor keys (◀/▶/▲/▼), CH keys (⋈/⋊) of R/C or on the set to select Menu - Setup - Information - Software update on OSD menu.
4. The message (Insert the USB memory device contains the software update file) shows up.
Push OK when if there is no problem.
5. After a while, if software update file is detected in the USB memory device, the following screen shows up.
Select OK when if there is no problem.

NOTE: If there is no software update file in the USB memory device, caution shows up.

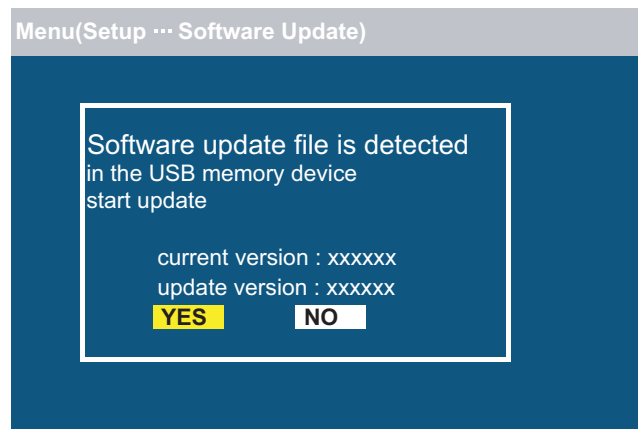
Please insert the correct file and retry software update.

NOTE: If software update file in the USB memory device doesn't match this model, caution shows up.

Please insert the correct file and retry software update.

NOTE: If software update file in the USB memory device is already installed, caution shows up.

Please reconfirm the software version and reinstall (if necessary).

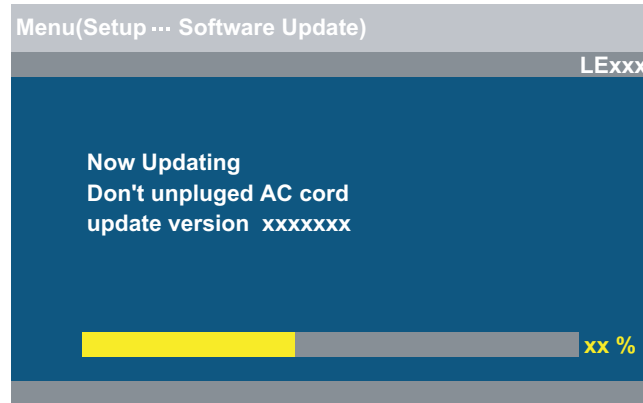


6. The caution for update shows up.
- The picture will temporary go dark until the software update display appears
 - Wait several minutes and don't unplug the AC cord
- Select OK when if there is no problem.

7. Software update starts.

Please wait for a while until the bar shows 100%

NOTE: Do not take out the USB memory device during updating.

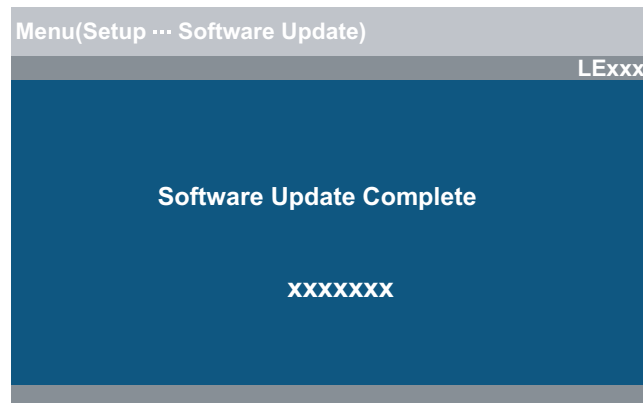


8. When all the procedures are complete, the following upgrade success screen shows up.

The new software version can be confirmed on screen.

After a while, Turn off power and boot-up automatically.

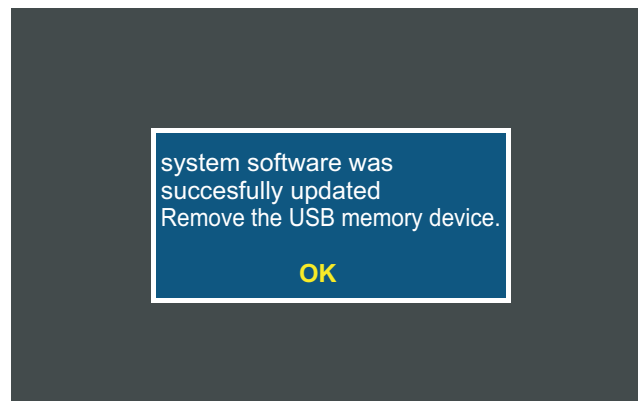
NOTE: TV is restarted automatically, the AC code need not be pulled out.



9. After boot-up, the following caution shows up.

Select OK when if there is no problem.

Software update is completed, please remove the USB memory device.



NOTE: Then get the set started and call the process adjustment screen 1/21 to check the main software version.

CHAPTER 5. TROUBLESHOOTING TABLE

[1] TROUBLESHOOTING TABLE

| No power (Central Icon LED failure to light up) or No startup (Central Icon LED is flashing) | | |
|--|---------|---|
| ↓ | | |
| Is the AC cord connector tightly connected to the set? | NO → | Reconnect the AC cord tightly and turn on the power again. |
| ↓ YES | | |
| Are the wire harnesses and other cables properly connected in the set? | NO → | Reconnect the wire harnesses and other cables properly in the set. |
| ↓ YES | | |
| Is there the pins (11/BU+5V) of P9601 as specified? | NO → | Replace the power unit. |
| ↓ YES | | |
| Is there the pins (10/PS_ON) of P9601 at "H"? | NO → | Check the signal line between PS_ON and IC2002. |
| ↓ YES | | |
| Is there the pins (9/AC_DET) of P9601 at "H"? | NO → | Check the power unit, and the signal line between AC_DET and IC2002. |
| ↓ YES | | |
| Is there the pins (1, 2, 3, 4/UR+13V) of P9601 at "H"? | NO → | Check the signal line between PS_ON and IC2002. |
| ↓ YES | | |
| Are the DC/DC converter outputs and the output voltages along the control lines as specified? | NO → | Check the DC/DC converters and the control lines. Replace defective parts as required. |
| 1) BU3.3V (IC9609 etc.) 2) D3.3V (IC9605 etc.) 3) D5.6V (IC9608 etc.) 4) D5V (IC9612 etc.) 5) D+1.8V (IC9606 etc.) 6) D+1.05V (IC9604 etc.) 7) STB+3.3V (Q9604 etc.) 8) S+8V (IC9610 etc.) 9) CPU+1.2V (IC9603 etc.) | | |

The sound is not emitted from the Speaker & Woofer though the picture has come out.

No sound output in all modes?

↓ YES

Is the signal output from pins (F30/AOLRCK), (F28/AOBCK) (G28/AOSDATA0) of IC3302 (Digital AV decode & Main CPU)?

NO
→

Check IC3302 and its peripheral circuits.

↓ YES

Is the signal sent to pins (7), (8), (9) of IC2701 (DSP)?

NO
→

Check the line between IC3302 and IC2701.

↓ YES

Is the signal output from pins (43/AOBCKL), (44/AMP_LRCLK), (45/AMP_DATA_LR), (46/AMP_DATA_SW), (47/AMP_MCLK) of IC2701?

NO
→

Check IC2701 and its peripheral circuits.

↓ YES

In the case that the sound is not emitted from the Speaker, refer to (A)
In the case that the sound is not emitted from the Woofer, refer to (B)

↓ (A)

Is the signal sent to pins (5), (6), (7), (8) of IC2703 (SP_AMP)?

NO
→

Check the line between IC2701 and IC2703.

↓ YES

Is the audio signal output from pins (28/OUTML), (30/OUTPL), (12/OUTPR), (14/OUTMR) of IC2703?

NO
→

Check IC2703 and its peripheral circuits.

↓ YES

Is pin (21) of IC2703 at "H"?

NO
→

Check the line between IC2703 and IC3302.

↓ YES

Is the audio signal input to pins (1, 2/L-ch), (3, 4/R-ch) of P2701?

NO
→

P2701 terminal and the peripheral circuit (L/C filter) are checked.

↓ YES

Check Speaker (right and left) and wire harness.

(B)

Is the signal sent to pins (5), (6), (7), (8) of IC2702 (Woofer_AMP)?

NO
→

Check the line between IC2701 and IC2702.

↓ YES

Is the audio signal output from pins (28/OUTML), (30/OUTPL), (12/OUTPR), (14/OUTMR) of IC2702?

NO
→

Check IC2702 and its peripheral circuits.

↓ YES

Is pin (21) of IC2702 at "H"?

NO
→

Check the line between IC2702 and IC3302.

↓ YES

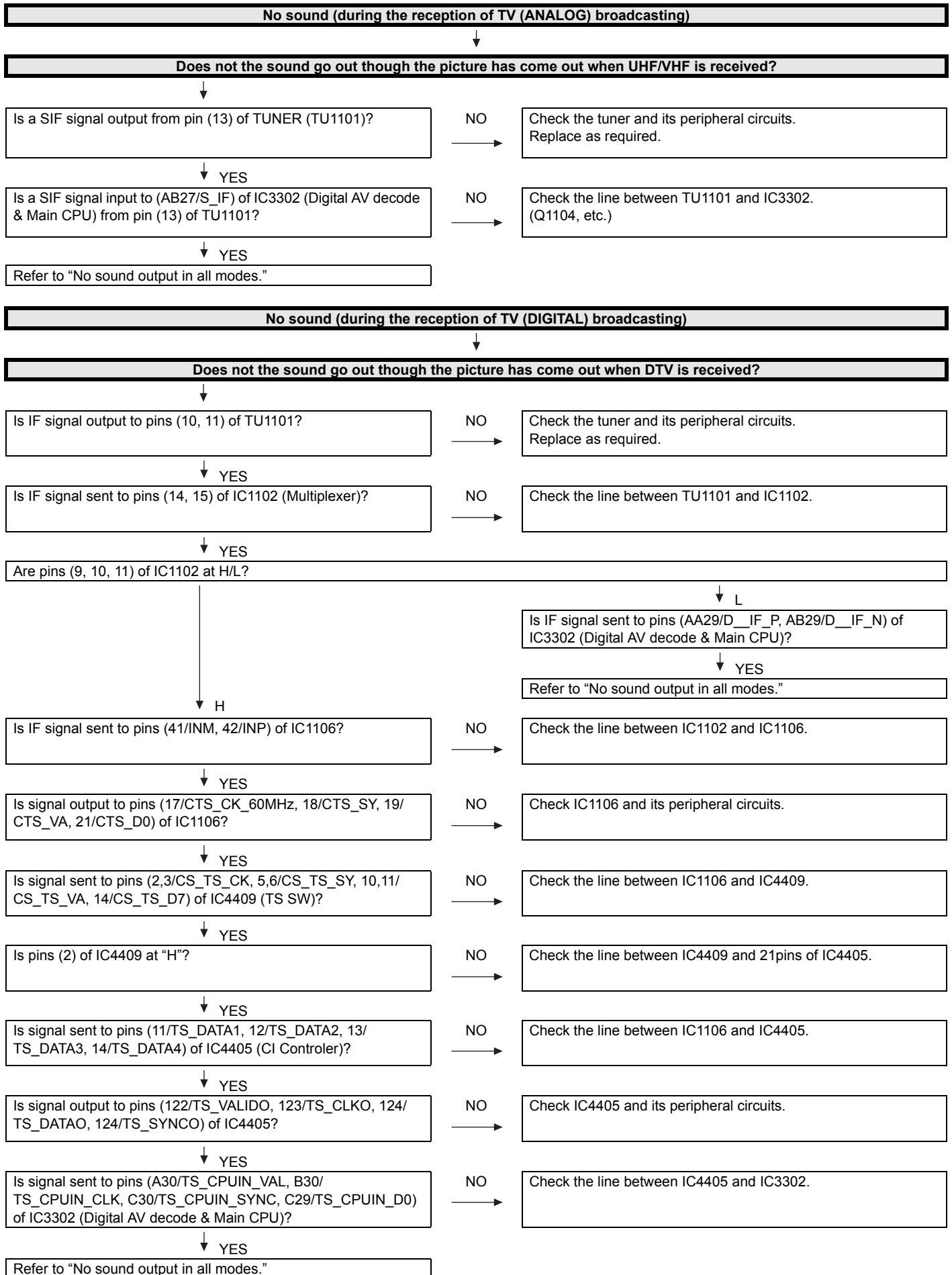
Is the audio signal input to pins (1/SUB(+)), (2/SUB(-)) of P2702?

NO
→

P2702 terminal and the peripheral circuit (L/C filter) are checked.

↓ YES

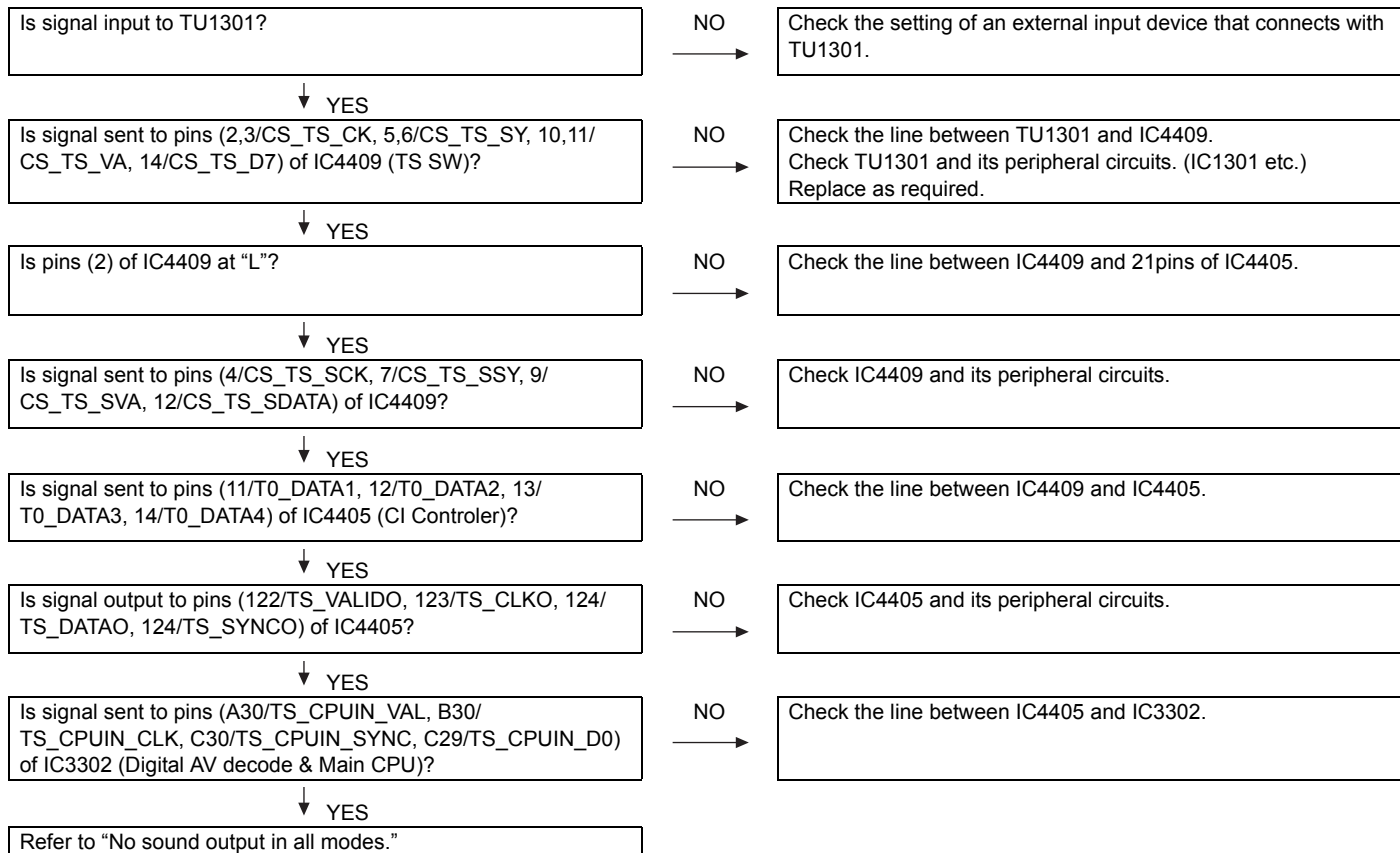
Check Woofer and wire harness.

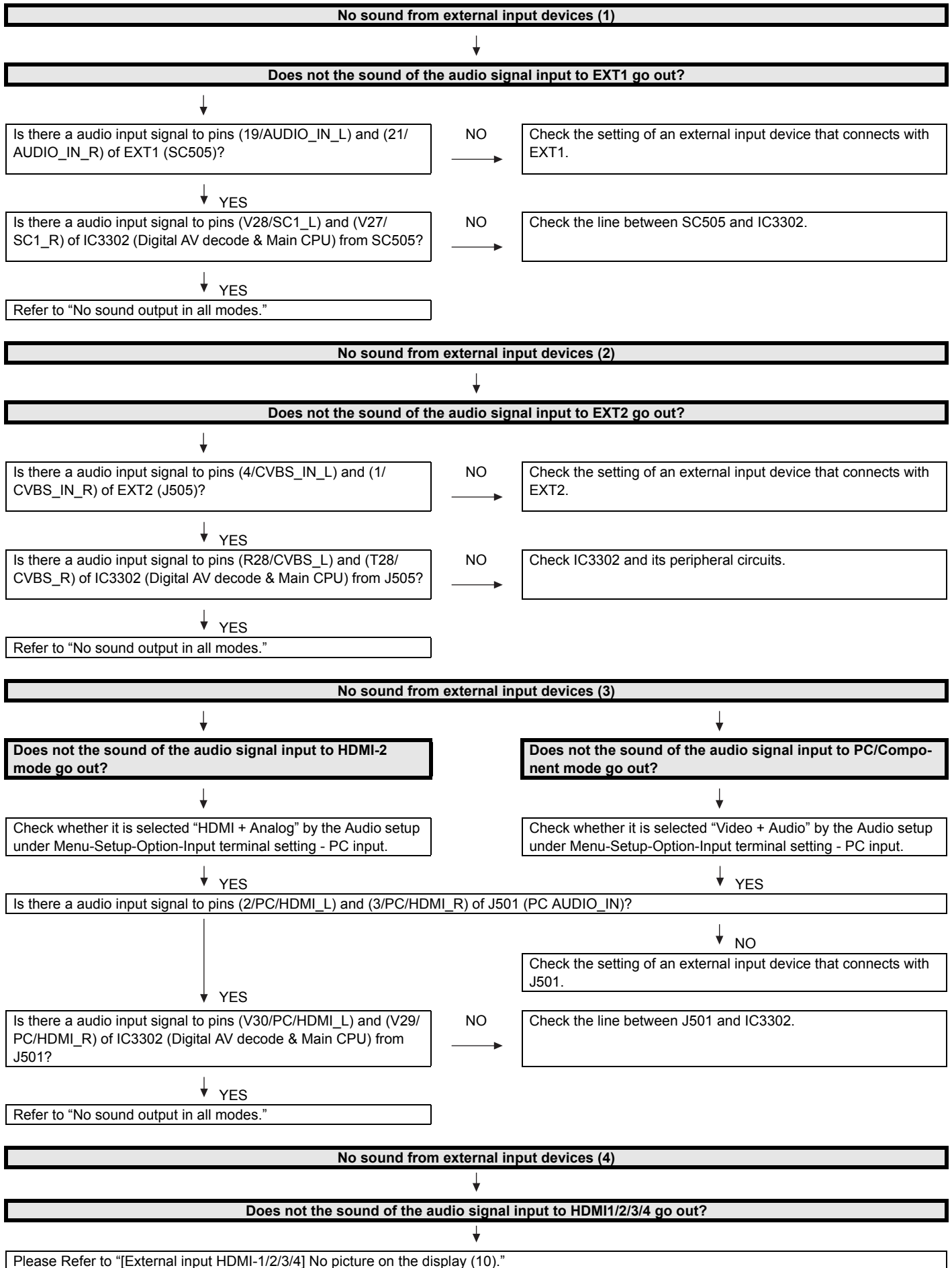


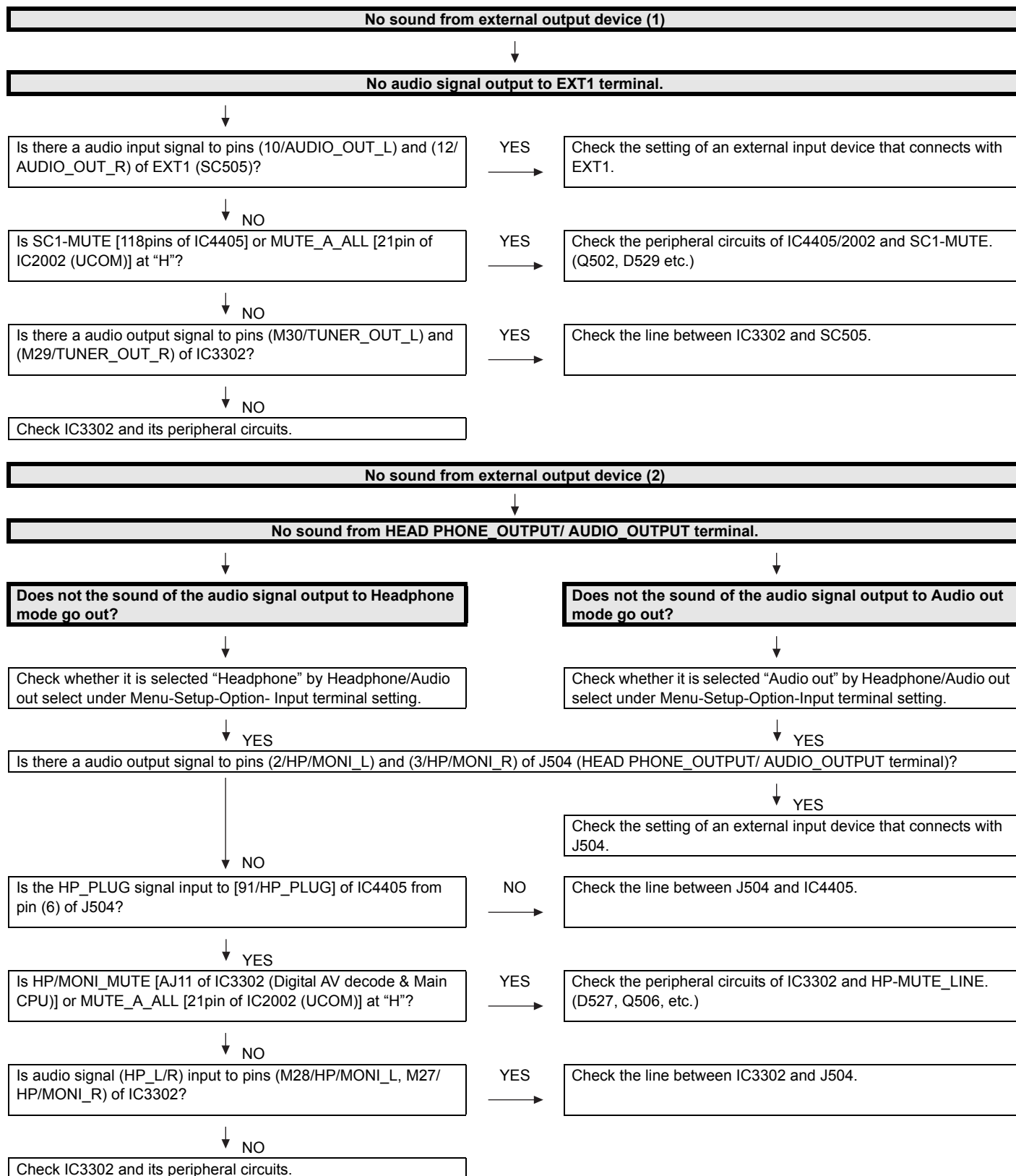
No sound (during the reception of TV (DIGITAL-Satellite) broadcasting)



Does not the sound go out though the picture has come out when DTV is received?







No sound from external output device (3)**No sound from DIGITAL AUDIO OUTPUT terminal.**

Is the audio signal output to pins (1) of sound output terminal (D520)?

YES

Check D520 and peripheral circuits.

↓ NO

Is SPDIF_MUTE signal SPDIF_MUTE [H29/IC3302] or MUTE_A_ALL [21pin of IC2002 (UCOM)] at "H"?

YES

Check the peripheral circuits of IC3302 and SPDIF_MUTE. (Q505, D530, etc.)

↓ NO

Is an audio signal input to pin (2) of IC503 from [J28/SPDIF_OUT] of IC3302 and is the logic signal input into pin (1) of IC503?

YES

Check the IC503 and peripheral circuits.

↓ NO

Check IC3302 and its peripheral circuits.

No sound from external output device (4)**Does not the sound of the audio signal output to HDMI1 go out?**

Is the audio signal output to pins (14) of SC1503 (HDMI1 terminal)?

YES

Check SC1503 and peripheral circuits.

↓ NO

Is the audio signal output to pins (8) (10) (12) of IC1508?

YES

Check the line between SC1503 and IC1508.

↓ NO

Is the audio signal input to pins (9) (11) (13) of IC1508?
Is the audio signal output to pins (6) of IC1508?
Is the audio signal input to pins (5) of IC1508?

YES

Check IC1508 and peripheral circuits.

↓ NO

Is the audio signal output to pins (4) of IC1505?

YES

Check the line between IC1508 and IC1505.

↓ NO

Is SPDIF_MUTE signal ARC_MUTE [AK2/IC3302] or MUTE_A_ALL [21pin of IC2002 (UCOM)] at "H"?

YES

Check the peripheral circuits of IC3302 and ARC_MUTE. (Q1501, D1513, etc.)

↓ NO

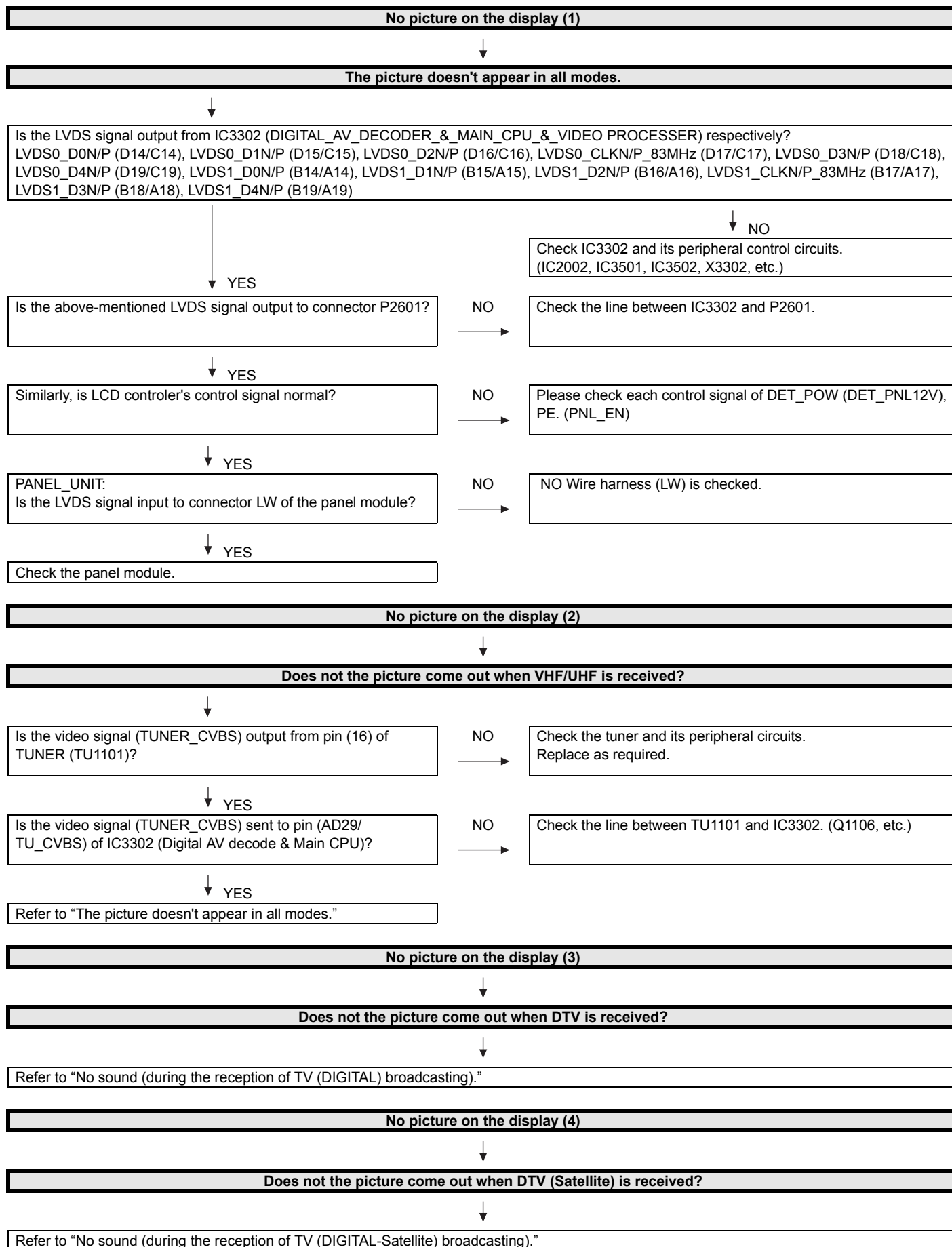
Is an audio signal input to pin (2) of IC1505 from [J28/SPDIF_OUT] of IC3302 and is the logic signal input into pin (1) of IC1505?

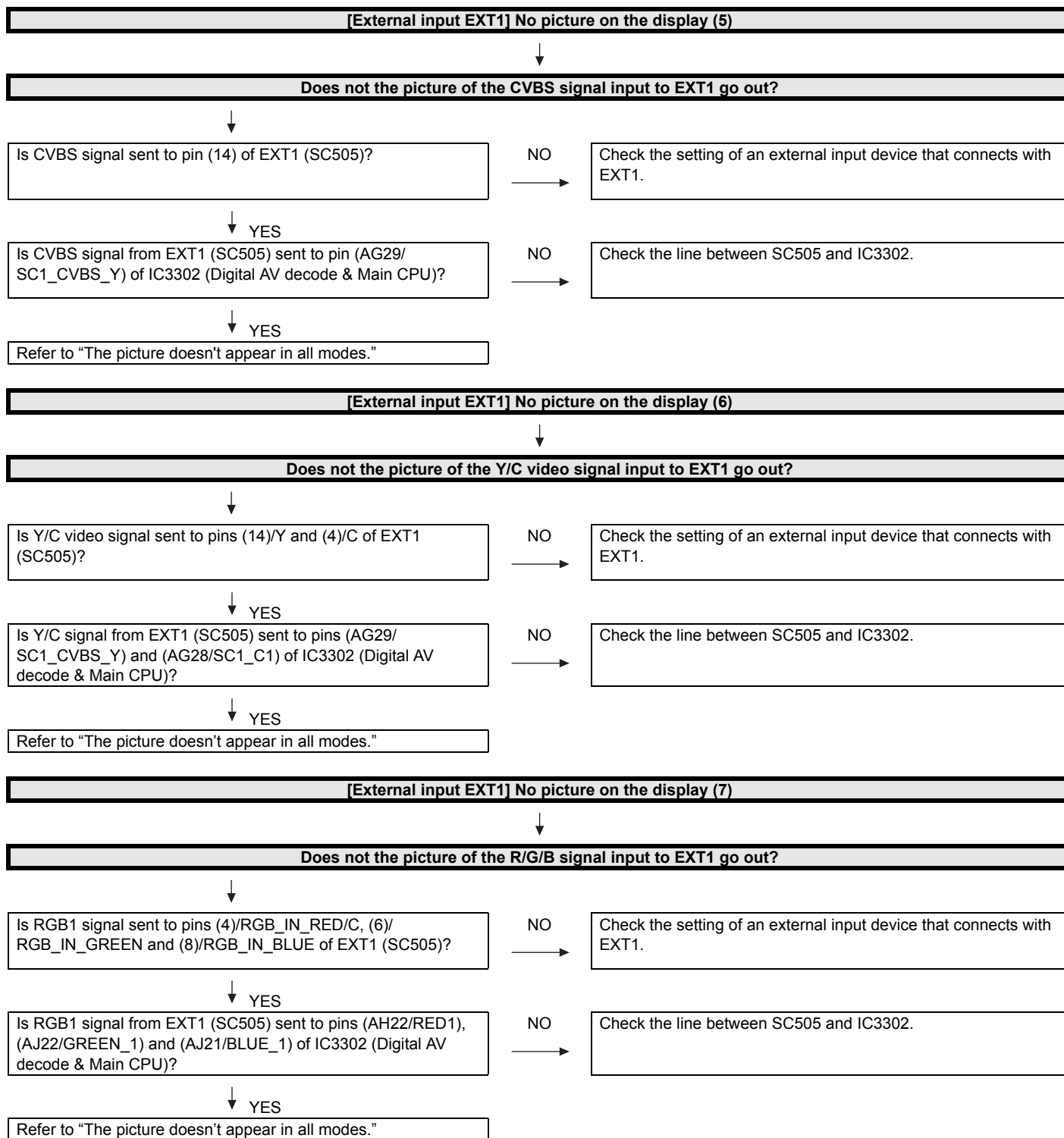
YES

Check the IC1505 and peripheral circuits.

↓ NO

Check IC3302 and its peripheral circuits.





[External input EXT2] No picture on the display (8)**Does not the picture of the CVBS signal input to EXT2 go out?**

Is a CVBS signal input to pin (3) of EXT8 (J505)?

NO

Check the setting of an external input device that connects with EXT2.

↓ YES

Is CVBS signal sent to pin (AE29/CVBS_IN) of IC3302?

NO

Check the line between J505 and IC3302.

↓ YES

Refer to "The picture doesn't appear in all modes."

[External input EXT3] No picture on the display (9)**Does not the picture of the component video signal input to EXT3 (15pin-D-SUB terminal) go out?**

Is it selected "Component" by the Audio setup under Menu-Setup-Option-Input terminal setting - Input select?

NO

Set the "Component".

↓ YES

Is a COMPONENT video signal input to pins (1)/PC_R_COM, (2)/PC_G_COM, (3)/PC_B_COM of EXT3 (SC501)?

NO

Check the setting of an external input device that connects with EXT3.

↓ YES

Is COMPONENT signal sent to pins (AJ17/PC_R_CM), (AJ16/PC_G_CM) and (AJ15/PC_B_CM) of IC3302?

NO

Check the line between SC501 and IC3302.

↓ YES

Refer to "The picture doesn't appear in all modes."

[External input EXT3] No picture on the display (10)**Does not the picture of the DVI (ANALOG) video signal input to EXT3 (15pin-D-SUB terminal) go out?**

Is it selected "PC (RGB)" by the Audio setup under Menu-Setup-Option-Input terminal setting - Input select?

NO

Set the "PC (RGB)".

↓ YES

Are the video signal and the synchronized signal input from pin (1, 2, 3)/(PC_R, G, B), (14 and 13)/(V, H.Sync) of EXT4 (SC501)?

NO

Check the connection and setup with the external DVI devices.

↓ YES

Are the video signal and the synchronized signal input from pins (AK17/PC_R) (AK16/PC_G) (AH15/PC_B) and (AK14/PC_HSYNC) (AJ14/PC_VSYNC) of IC3302 (Digital AV decode & Main CPU)?

NO

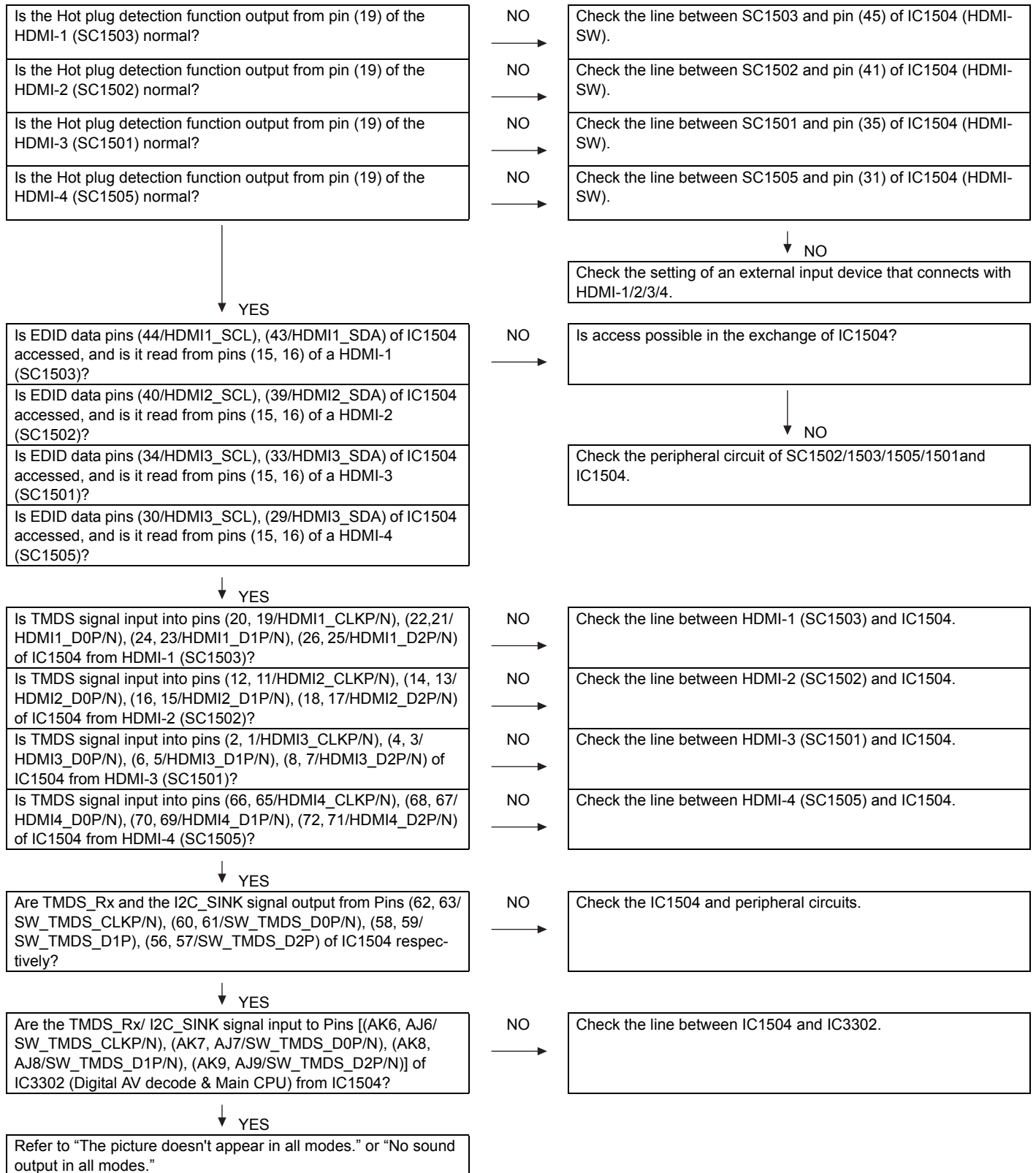
Check the line between SC501 and IC3302.

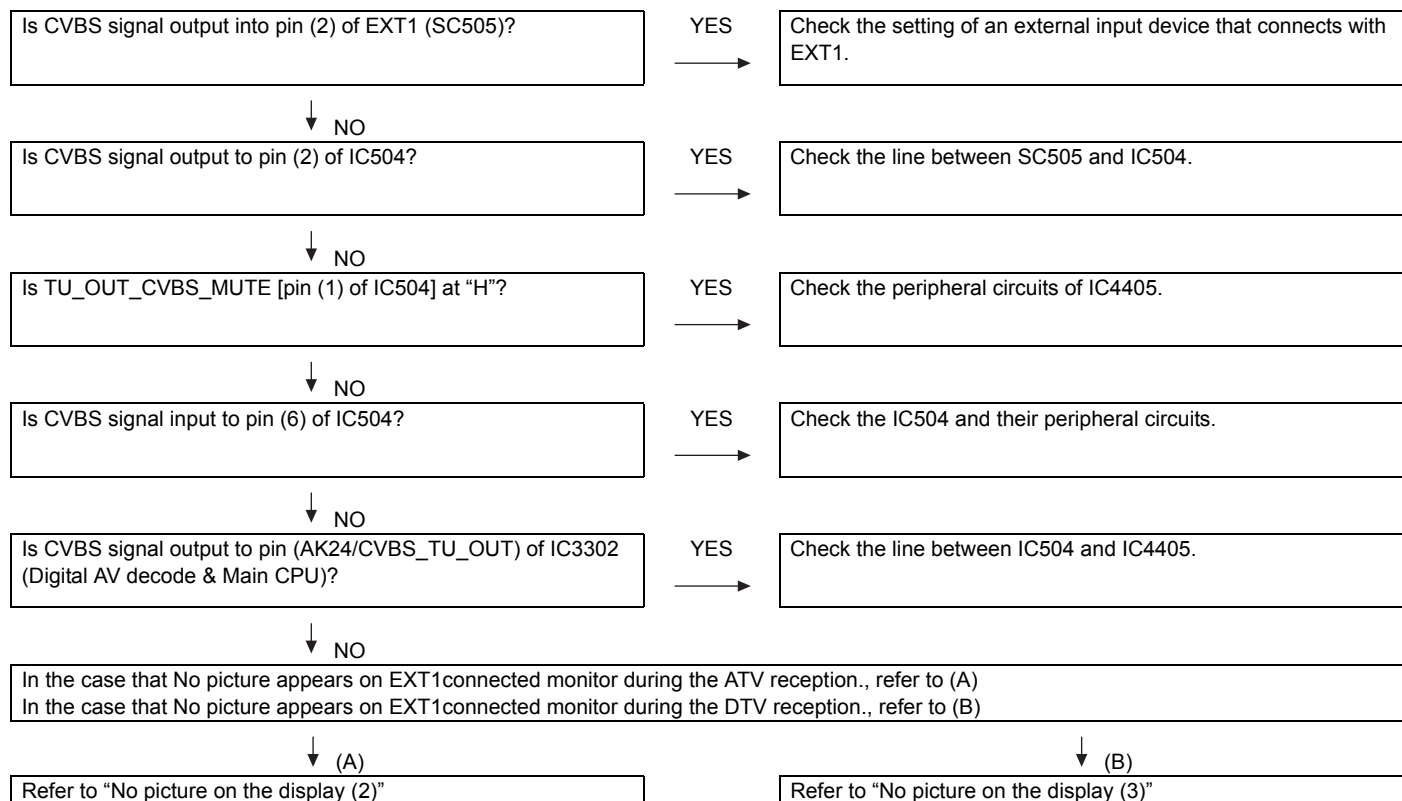
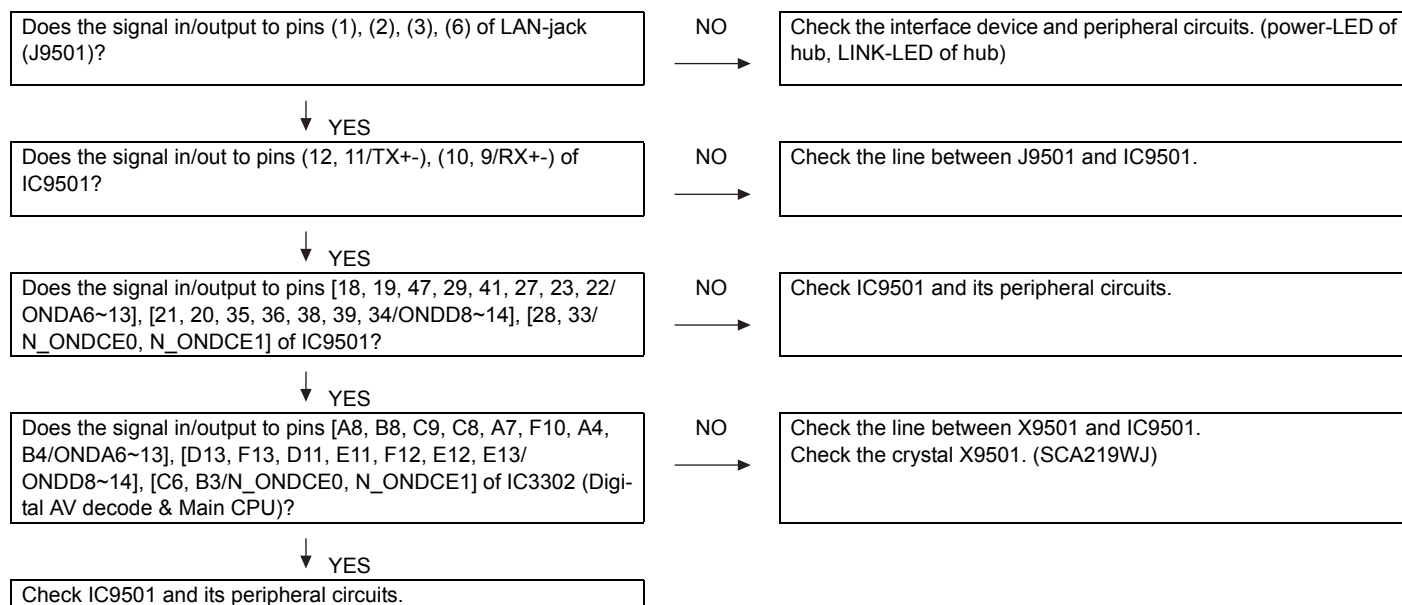
↓ YES

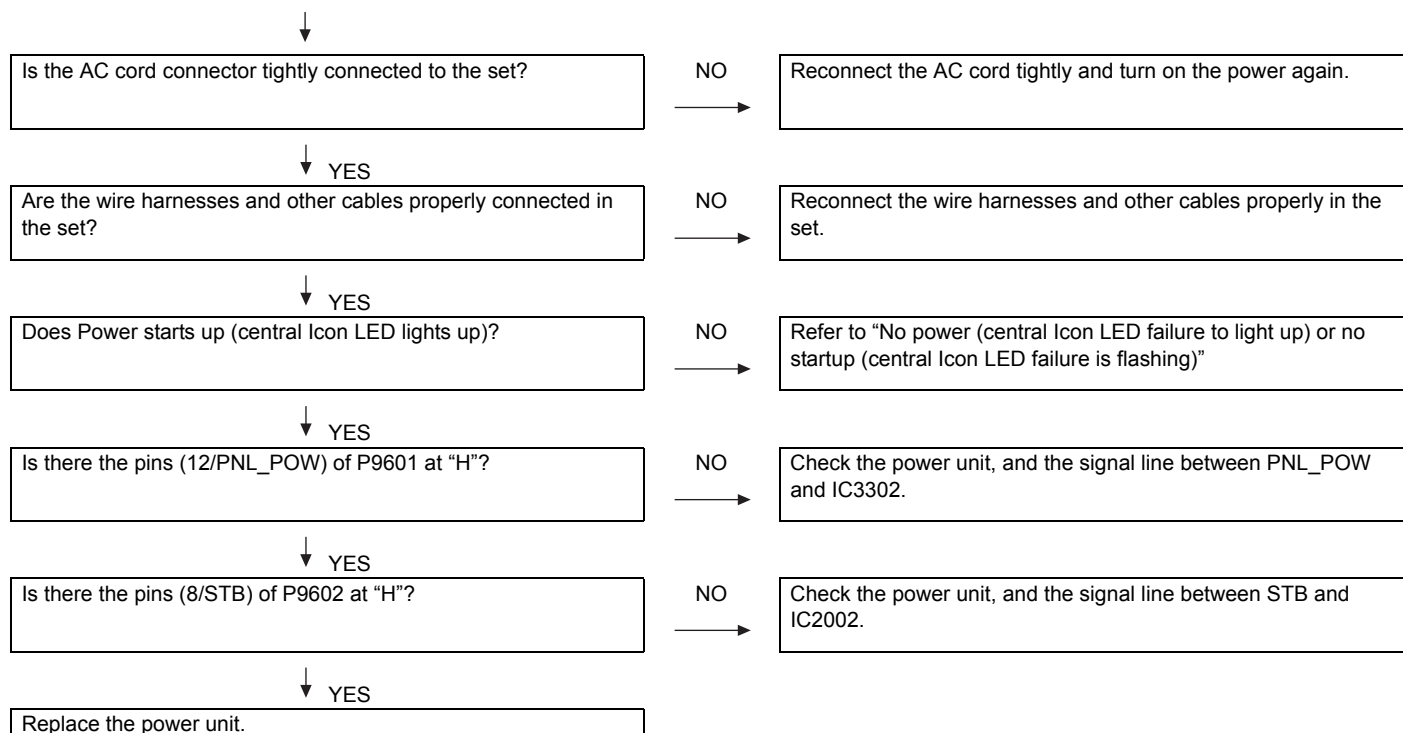
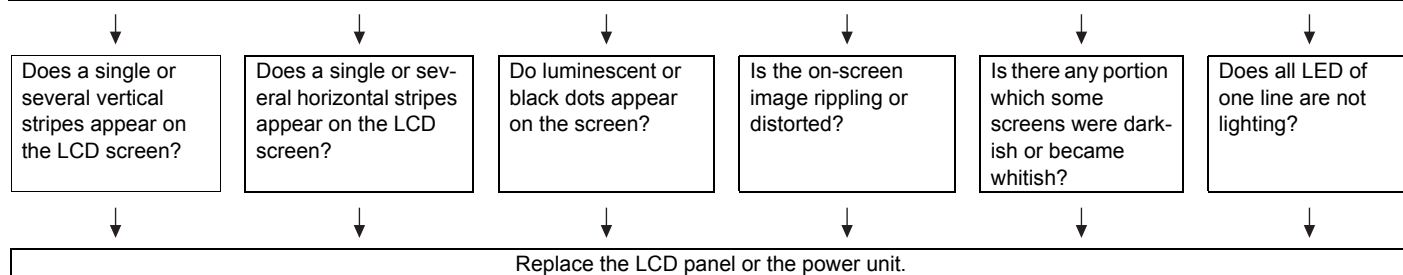
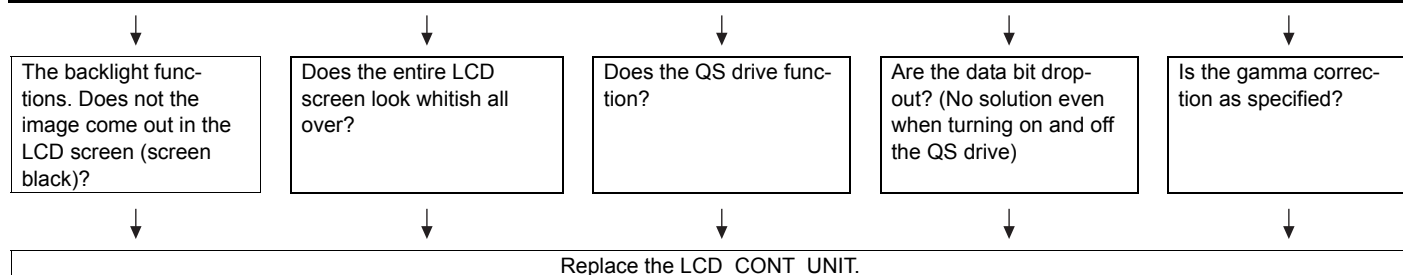
Refer to "The picture doesn't appear in all modes."

[External input HDMI-1/2/3/4] No picture on the display (11)

Does not the picture/sound of the HDMI signal input to HDMI-1/2/3/4 go out?



<During external connection> No picture on the monitor**No picture appears on EXT1connected monitor during the ATV/DTV reception.****[External input Network] No picture on the display****Does not the signal input to Network go out?**

No light (Back Light doesn't light)**LCD Panel failure (1)****LCD Panel failure (2)**

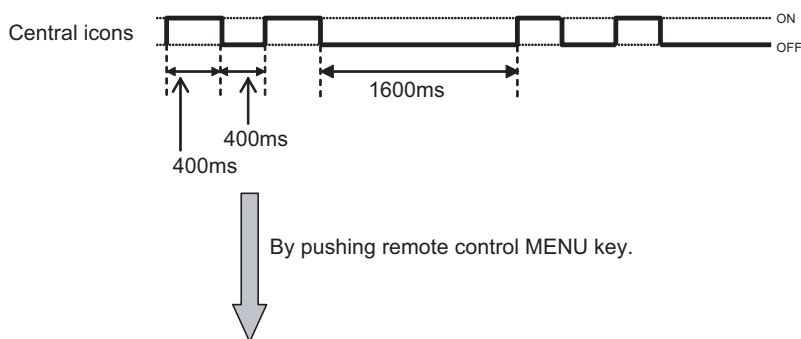
[2] LED flashing specification at the time of the error

Display method

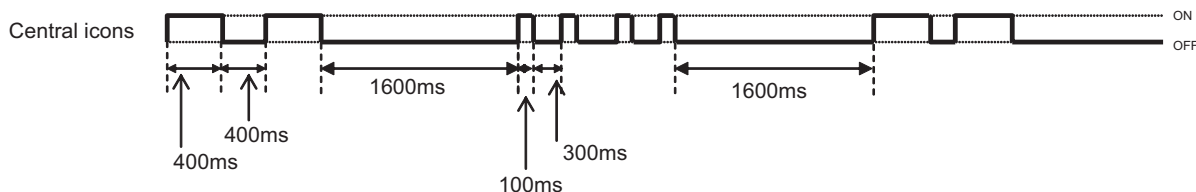
- Refer to Table 1.
- LED that can be used is only one of the central icons.
This expresses the error situation by combining blinking at low speed and blinking at high speed.
- For this model, the blinking pattern displayed first is only a low-speed blinking.
This expresses **a rough content of the error**.
- For this model, details are displayed by high-speed blinking by pushing remote control MENU key.
This expresses **details of the error**.
Details are distinguished by the blinking frequency.
- It doesn't return to the outline display again (blink at low speed) by pushing the MENU key (The toggle is not done).
Please confirm "MONITOR ERR CAUSE" of the adjustment Process mode (1/21), when the error doesn't reproduce by having returned from the error.
- The process of the upgrade is expressed by the brightness of point LED that smoothness changes.
- The upgrade completion is expressed by the LED brightness that changes in a staircase pattern.

LED flashing method

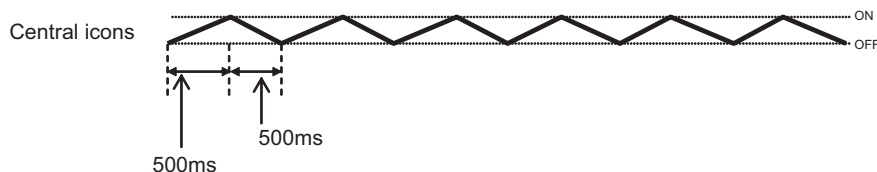
<Examination for a rough content of the error>



<Examination for details of the error>



<Upgrade executing>



<Upgrade completion>

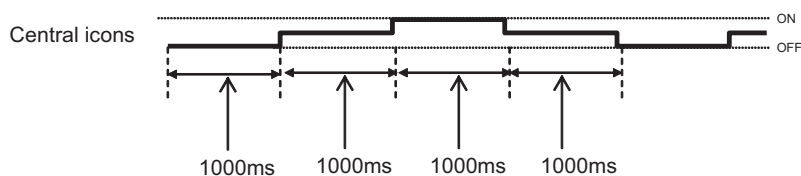


Table 1. Concrete flashing pattern

| Item | Expression for a rough content | | Expression for Details | | Cause |
|---|--------------------------------|--------------------------|------------------------|---------------------|--|
| | low-speed blinking | high-speed blinking | low-speed blinking | high-speed blinking | |
| Lamp system failure | Flashes once | — | Flashes once | Flashes once | Lamp error |
| Power PWB failure (Power failure, etc.) | Flashes twice | — | Flashes twice | Flashes once | Power Error 1 AC_DET error (*2) |
| | | | | Flashes twice | Power Error 2 UR+13.5V error (*2) |
| | | | | Flashes 3 times | Power Error 3 D3.3V error (*2) |
| | | | | Flashes 5 times | Panel power supply error |
| Main PWB failure (Communication failure, etc.) | Flashes 3 times | — | Flashes 3 times | Flashes once | Initial communication error |
| | | | | Flashes twice | Start-up confirmation communication error |
| | | | | Flashes 3 times | Regular communication error |
| | | | | Flashes 5 times | Other communication error |
| Others | Flashes 4 times | — | Flashes 4 times | Flashes once | Temperature error |
| | | | | Flashes twice | Sync error |
| | | | | Flashes 3 times | Notification from the main microprocessor (*3) |
| Upgrade executing | smoothness changes. | — | — | — | Version upgrading |
| Upgrade completion | a staircase pattern. | — | — | — | Version upgrade succeeded |
| Upgrade failed | — | Flashing (Continuous) | — | — | Version upgrade failed |
| ROM data failure | — | Flashing (Continuous) | — | — | Start-up after failing version upgrade (*4) |

*2: It depends on the system. The power supply error suitable for the product is defined.

*3: For details, refer to ERROR STANDBY CAUSE on the adjustment process screen.

*4: If the boot section is abnormal, there is no flashing (flashing disabled).

MONITOR ERR STBY table

Outline: Communication/Power failure detected by the monitor microprocessor (IC2002) is stored on EEPROM, states can be confirmed in the adjustment process mode.

Location: Page 1/21 of the adjustment process mode: MONITOR ERR CAUSE "0" if there is no error. It is cleared to 0 on the page (2/21) of the adjustment process mode.

| Display | Error description | |
|---------|--------------------------------|--|
| 02 | Start-up communication error 2 | Initial communication from the main CPU is not received. |
| 03 | Start-up communication error 3 | Only the initial communication is received. |
| 04 | Start-up communication error 4 | Until panel information request reception |
| 05 | Start-up communication error 5 | Until initialization completion reception |
| 06 | Start-up communication error 6 | Until version notification transmission |
| 07 | Start-up communication error 7 | Until start-up information notification transmission |
| 08 | Start-up communication error 8 | Until start-up information response reception |
| 09 | Start-up communication error 9 | Until time-out setting reception |
| 0A | Communication error A | REQ time-out |
| 0B | Communication error B | Restart time-out during the beginning of time acquisition start-up |
| 0C | Communication error C | Ending sequence time-out |
| 0D | Communication error D | Preset start-up time-out during completion |
| 0E | Communication error E | Download start-up time-out |
| 0F | Communication error F | Time acquisition time-out |
| 11 | Communication error H | Regular communication time-out |
| 16 | Panel-related error | Lamp failure |
| 1A | Other error 2 | Monitor temperature failure |
| 1D | Power supply error 1 | PS_ON (AC_DET) failure |
| 1E | Power supply error 2 | D_POW (DET_13V) failure |
| 1F | Power supply error 3 | D_POW (DET_D3V3) failure |
| 21 | Power supply error 5 | Panel power failure |
| 23 | Other error 3 | Error standby request from the main CPU |

LED flashing timing chart at the time of the error



1) Low-speed blinking

| Error type | Expression of Central Icon LED | Note: Pins are monitor microprocessor pins (IC2002). |
|--|--------------------------------|---|
| Lamp failure low-speed blinking Flashes once | H: ON L: OFF | Refer to "Lamp failure details". LOW/High blinking by pressing the [MENU] key on the remote control. |
| Power failure low-speed blinking Flashes twice | H: ON L: OFF | Refer to "Power failure details". LOW/High blinking by pressing the [MENU] key on the remote control. |
| Communication failure with main CPU low-speed blinking Flashes 3 times | H: ON L: OFF | Refer to "Communication failure details". LOW/High blinking by pressing the [MENU] key on the remote control. Communication line failure or main CPU communication failure. |
| Others low-speed blinking Flashes 4 times | H: ON L: OFF | Refer to "Other failure details". LOW/High blinking by pressing the [MENU] key on the remote control. |





2) Lamp failure details (Low-speed blinking: Flashes once + High-speed blinking)

| Error type | Expression of Central Icon LED | Note: Pins are monitor microprocessor pins unless otherwise specified (IC2002). |
|--|--------------------------------|---|
| Lamp failure Flashes once (High speed) | H: ON L: OFF | ERR_PNL (40pin): Abnormal H. Confirmed after 8 consecutive detections at 64ms intervals (detected only when the backlight is on). NOTE: After 5 detection counts, the lamp cannot be activated except in the monitoring process. To confirm the problem, "Lamp Error detection off-mode" is prepared. This mode compulsorily starts the set disregarding the count. Please refer to [ADJUSTMENT PROCEDURE - 9. Lamp Error detection] |



3) Power failure details (Low-speed blinking: Flashes twice + High-speed blinking)

| Error type | Expression of Central Icon LED | Note: Pins are monitor microprocessor pins unless otherwise specified (IC2002). |
|---|--------------------------------|---|
| PS_ON AC_DET failure Flashes once (High speed) | H: ON L: OFF | AC_DET (72pin): Abnormal (L). If error is detected during start-up or operation, the power is turned on again by interrupt handling (instantaneous blackout processing). |
| SM_POW Main 13V failure Flashes twice (High speed) | H: ON L: OFF | DET_13V (38pin): Abnormal (L). Main 13V is not applied. If error is detected during start-up or operation, the power is turned on again by polling. |
| D_POW Digital 3.3V failure Flashes 3 times (High speed) | H: ON L: OFF | DET_D3V3 (36pin): abnormal (L). Digital 3.3V is not applied. If error is detected during start-up or operation, the power is turned on again by polling. |
| PANEL_POW Panel 12V failure Flashes 5 times (High speed) | H: ON L: OFF | DET_PNL12V (35pin): abnormal (L). DET_PNL12V is not applied. Detection starts after receiving command from Panel Power ON. The power is turned off by polling. |

4) Communication failure details (Low-speed blinking: Flashes 3 times + High-speed blinking)

| Error type | Expression of Central Icon LED | Note: Basically, debug print logs are analyzed or communication logs are analyzed by a bus monitor. |
|--|--|--|
| Initial communication reception failure Flashes once (High speed) | H: ON  L: OFF | Initial communication from the main CPU is not received. (Request for the monitor model No. is not received.) → Communication line failure or main CPU start-up failure |
| Start-up confirmation reception failure Flashes twice (High speed) | H: ON  L: OFF | Start-up reason confirmation from the main CPU cannot be received. (Startup communication until start-up reason notification command is not received.) → Main CPU start-up failure or monitor microprocessor reception failure |
| Regular communication failure Flashes 3 times (High speed) | H: ON  L: OFF | Regular communication that is performed at 1 second intervals in the normal operation is interrupted. → Main CPU operation failure or monitor microprocessor reception failure |
| Other communication failure Flashes 5 times (High speed) | H: ON  L: OFF | When a request (PM_REQ=H) is sent from the main microprocessor, the request command is not output from the main CPU, etc. → Main CPU operation failure or monitor microprocessor reception failure |

5) Other failure details (Low-speed blinking: Flashes 4 times + High-speed blinking)

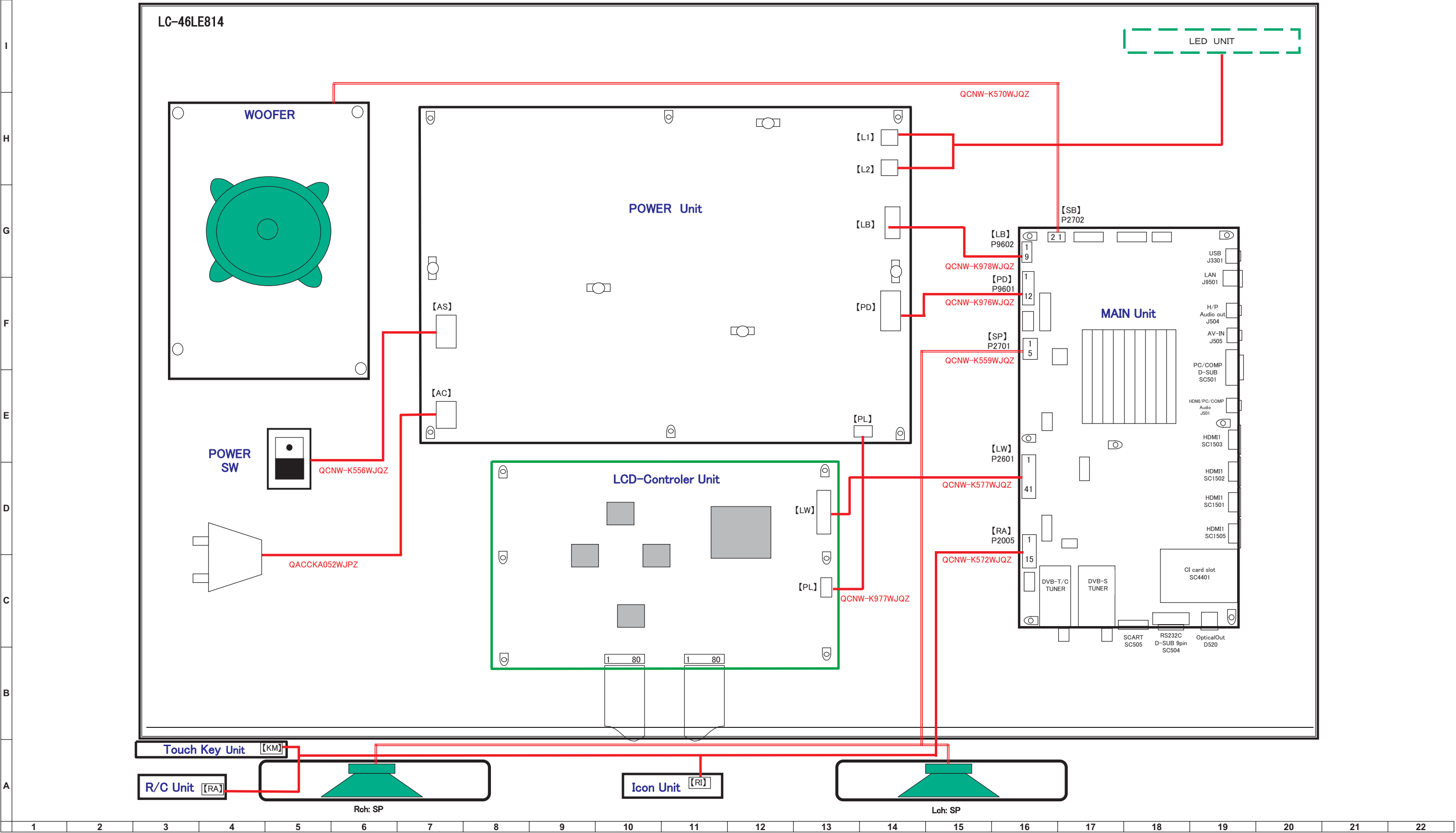
| Error type | Expression of Central Icon LED | Note: Pins are monitor microprocessor pins unless otherwise specified (IC2002). |
|---|--|--|
| Monitor temperature failure Flashes once (High speed) | H: ON  L: OFF | If the panel temperature is 60°C or more for 15s or more in a row, CAUTION appears on the OSD (flashes in red in the lower right screen). If the panel temperature is 60°C or more for 25s or more in a row, error standby is activated. (MONITOR MAX TEMP on page 12/21 of the adjustment process: Change AD value for temperature failure): Thermistor |
| Main failure Flashes 3 times (High speed) | H: ON  L: OFF | Main microprocessor detection error (CPU temperature error, etc.) Details are displayed on page 1/21 of the adjustment process for the main microprocessor. |

CHAPTER 6. MAJOR IC INFORMATIONS

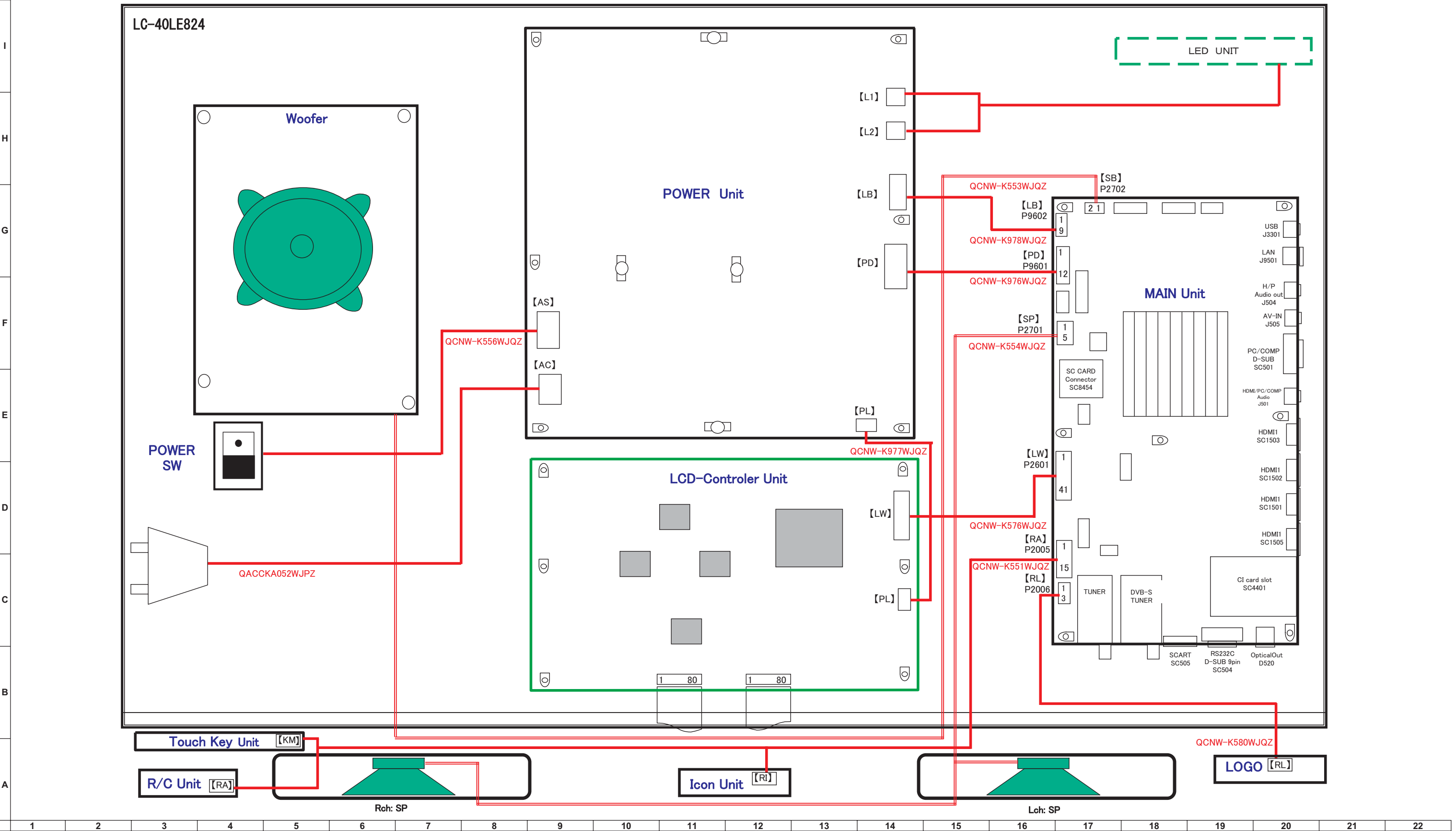
[1] MAJOR IC INFORMATIONS

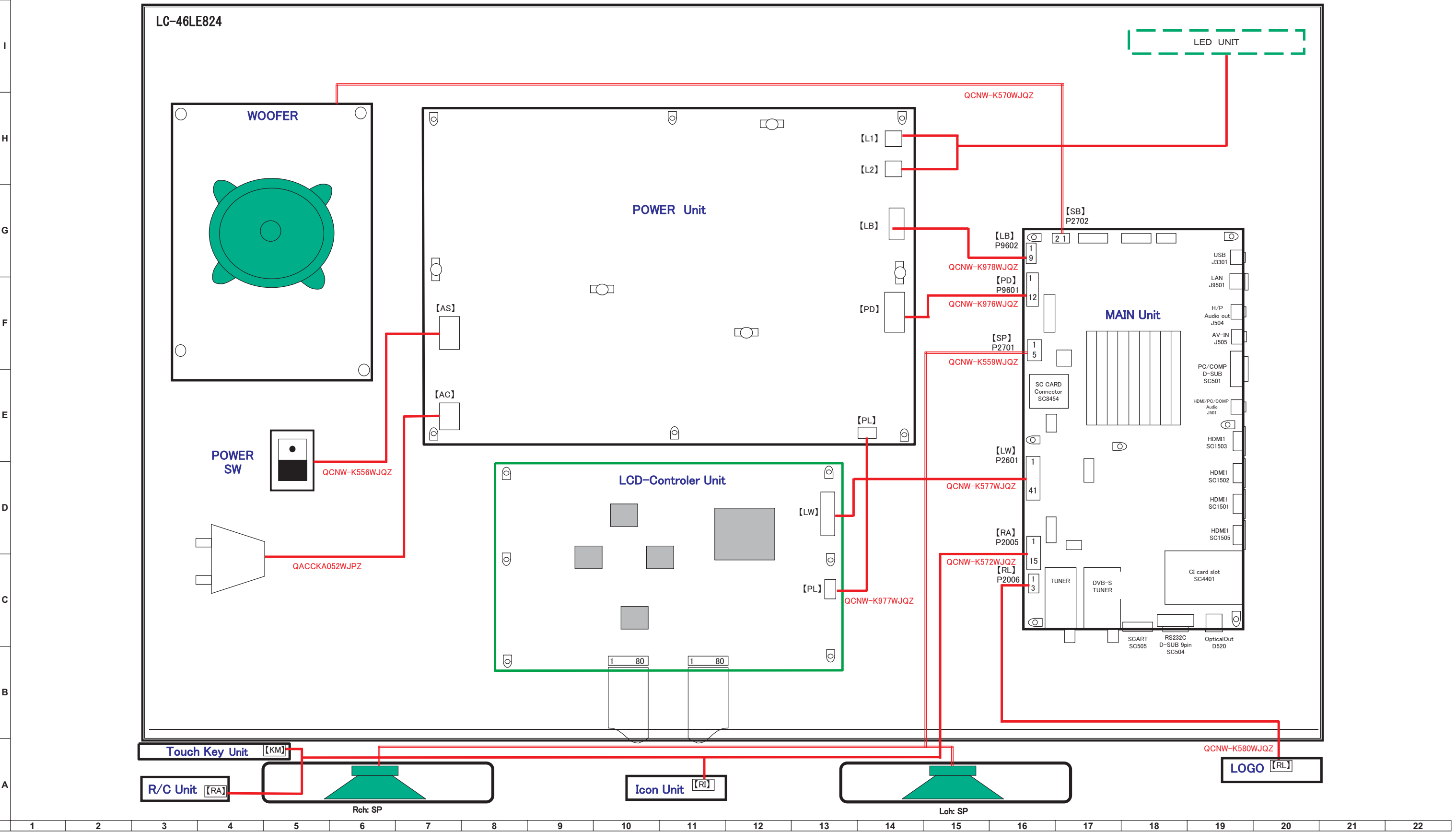
| REF NO | Name | Part Code | Description |
|--------------------|---|------------------------|---|
| [MAIN UNIT] | | | |
| IC8401 | RH-iXD047WJQZQ | Flash | This IC is 1024Mbit NAND flash memory. This IC stores the software data that processes the system of TV such as the graphic processing, the LCD controls, and backlights etc. |
| IC3302 | RH-iXC951WJN1Q | Main CPU | This IC is Video Processor & MAIN CPU. In this IC, the decode processing and the video signal processing are done. Moreover, OSD is generated here and added to a picture signal. |
| IC2002 | RH-iXC786WJQZQ for service (RH-iXC786WJNJQ) | UCOM | The monitor microprocessor is intended to communicate with the main CPU and to operate the system. It also controls power of the entire system. |
| IC3501/3502 | RH-iXC754WJQZQ | DDR | This IC is 1GB DDR2 SDRAM. This IC operates as a memory of IC3302 (Video Processor). |
| IC501 | VHi24LC21AT-1Y for service (RH-iXD108WJQZS) | 1K bit E2PROM | This IC is a 1Kbit-2-wire (I2C bus type) serial EEPROM that can be programmed electrically. The EEPROM chip stores the EDID data of PC input. This data is controlled through I2C signals. |
| IC8455 | VHiR24064AS-1Y | 64K bit E2PROM | The BR24S64W is a 64Kbit-2-wire (I2C bus type) serial EEPROM that can be programmed electrically. This IC stores the menu data and the adjustment value data of adjustment process mode etc. The data is given out by commands from the main microprocessor. |
| IC506 | VHiM3221EiP-1Y | RS232C-DRIVER | The MAX3221E is a single driver, single receiver RS-232 solution operating from a single Vcc supply. The RS-232 pins provide IEC G1000-4-2 ESD Protection. The device meets the requirements of TIA/EIA-232-F and provides the electrical interface between an asynchronous communication controller and the serial-port connector. The charge pump and four small external capacitors allow operation from a single 3V to 5.5V supply. |
| IC4405 | VHiMT8295AE-1Q | CI controller | This is a control IC for PCMCIA cards. This controls information on IC cards inserted into the PCMCIA card slot (SC4401) or information on software version upgrade cards saved on flash memories to transfer the data to CPUs and memories. |
| IC2004 | VHiR24002AS-1Y | 2K bit E2PROM | This is a 2Kbit-2-wire (I2C bus type) serial EEPROM that can be programmed electrically. This IC stores the menu data and the adjustment value data of adjustment process mode etc. The data is given out by commands from the main microprocessor. |
| IC1504 | VHiSi9287+-1Q | HDMI_Port_Processor | The Si9287 HDMI port processor is the second generation of HDMI devices that support revision 1.3 of the HDMI specification. The main feature is as follows. 1) 4-input, 1-output HDMI port processor. 2) Integrated TMDS receiver and transmitter cores capable of receiving and transmitting at 2.25Gbps. 3) Supports video resolutions up to 1080p, 60Hz, 12bit or 720p/1080i, 120Hz, 12bit. 4) Receiver fully comply with DVI1.0, HDCP1.1 and HDMI1.3 specifications. |
| IC1106 | VHiSTV0297E-1Q | QAM Demodulator | The STV0297E's demodulator is a complete QAM (quadrature amplitude modulation) demodulation and FEC (forward error correction) solution that performs IF to transport stream block processing of QAM signals. It is intended for the digital transmission of compressed television, sound, and data services over cable. |
| IC9501 | VHiKSZ8041T-1Y | Ethernet Bus Interface | This IC is a single supply 10Base-T/100Base-TX Physical Layer Transceiver, which provides MII/RMII/SMII interfaces to transmit and receive data. |
| IC2701 | VHiYSS951VZ-1Y | Sound processor | This IC is the Sound processing LSI with built-in two DSP (MDSP/SDSP) and FM (frequency modulation) oscillators. This IC process sound signal and sent it to AMP for Speaker and Woofer. |
| IC2702/2703 | VHiYDA164QZ-1Y | Audio-AMP | This IC is digital audio power amplifier with digital audio interface. The power-supply voltage is corresponded to A.8V~18V and the maximum output is 20Wx2ch. |
| IC1301 | RH-iXC563WJQZY | LNB supply and control | It is IC for amplifying the feeble electric wave sent from satellite broadcasting on the level which can treat a decoder, and changing and processing signal. |





[3] OVERALL WIRING DIAGRAM (LC-40LE824E/RU)









SHARP PARTS GUIDE

No. S90K840LE814E



LCD COLOUR TELEVISION

LC-40LE814E/RU
LC-46LE814E/RU
LC-40LE824E/RU
LC-46LE824E/RU

MODELS

CONTENTS

- | | |
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| [1] PRINTED WIRING BOARD ASSEMBLIES | [7] SUPPLIED ACCESSORIES |
| [2] LCD PANEL MODULE | [8] PACKING PARTS (NOT REPLACEMENT ITEM) (LC-40LE814/824E/RU) |
| [3] CABINET PARTS (LC-40LE814E/RU) | [9] PACKING PARTS (NOT REPLACEMENT ITEM) (LC-46LE814/824E/RU) |
| [4] CABINET PARTS (LC-46LE814E/RU) | [10] SERVICE JIGS (USE FOR SERVICING) |
| [5] CABINET PARTS (LC-40LE824E/RU) | |
| [6] CABINET PARTS (LC-46LE824E/RU) | |

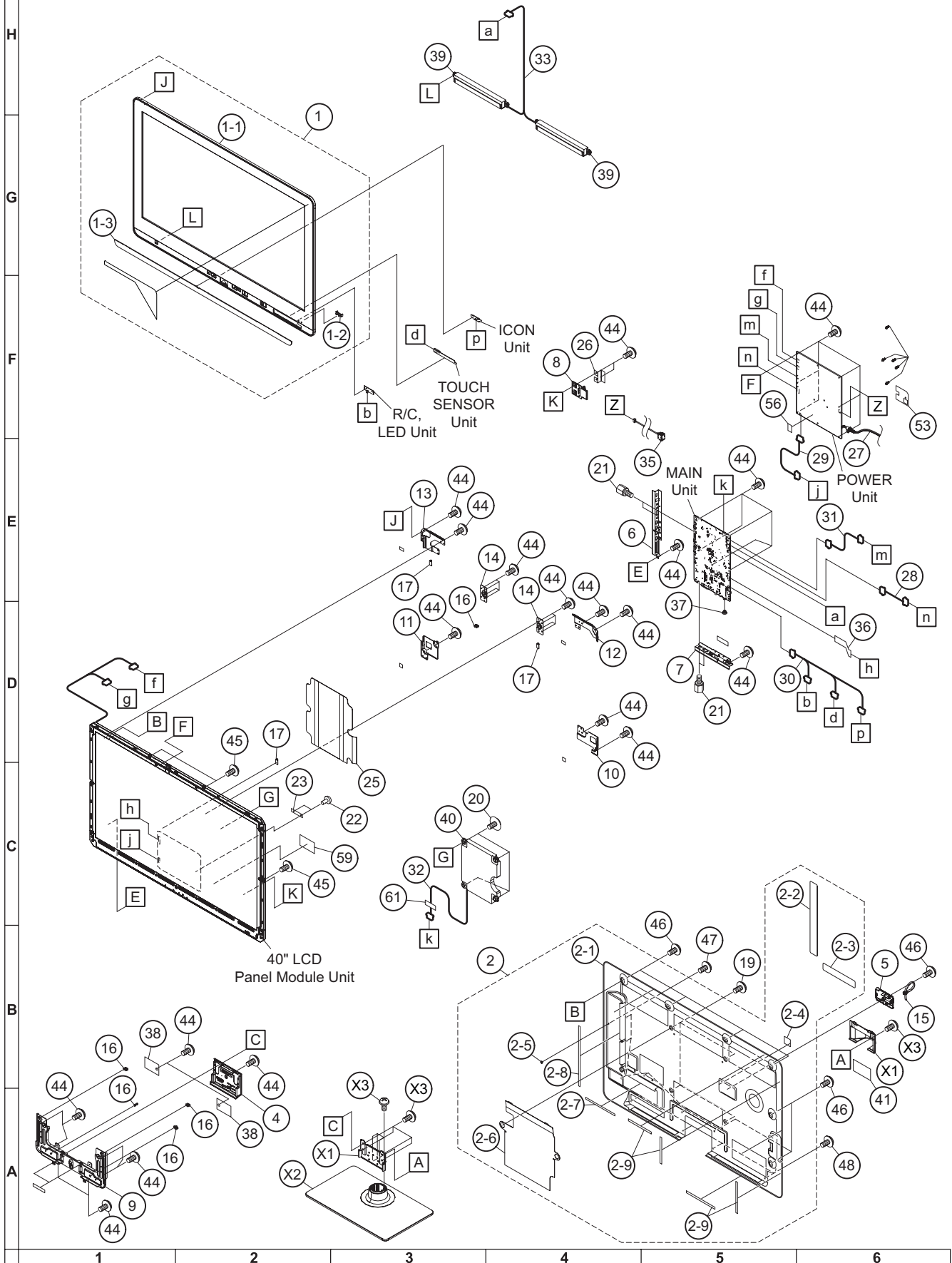
Parts marked with "△" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART DELIVERY | DESCRIPTION |
|--|----------------|---------------|----------|---------------|---|
| [1] PRINTED WIRING BOARD ASSEMBLIES | | | | | |
| N | DKEYDF455FM11 | | N | P | MAIN Unit (LC-40LE814E/RU)(LC-46LE814E/RU) |
| N | DKEYDF455FM12 | | N | P | MAIN Unit (LC-40LE824E/RU)(LC-46LE824E/RU) |
| N | DUNTKF493FM03 | | | P | ICON Unit |
| N | DUNTKF493FM04 | | | P | LOGO Unit (LC-40LE824E/RU)(LC-46LE824E/RU) |
| N | DUNTKF494FM02 | | | P | R/C, LED Unit |
| △ | N | RUNTKA685WJQZ | | P | POWER/LED CONTROL Unit (LC-40LE814E/RU)(LC-40LE824E/RU) |
| △ | N | RUNTKA686WJQZ | | P | POWER/LED CONTROL Unit (LC-46LE814E/RU)(LC-46LE824E/RU) |
| N | RUNTKA692WJQZ | | N | P | TOUCH SENSOR Unit (LC-40LE814E/RU)(LC-46LE814E/RU) |
| N | RUNTKA761WJQZ | | N | P | TOUCH SENSOR Unit (LC-40LE824E/RU)(LC-46LE824E/RU) |
| N | RUNTK4512TPZC | | | P | LCD CONTROL Unit |
| [2] LCD PANEL MODULE | | | | | |
| N | R1LK400D3LWF2Y | | N | P | 40" LCD Panel Module Unit (LC-40LE814E/RU) |
| N | R1LK460D3LWG2Y | | N | P | 46" LCD Panel Module Unit (LC-46LE814E/RU) |
| N | R1LK400D3LWF0Y | | N | P | 40" LCD Panel Module Unit (LC-40LE824E/RU) |
| N | R1LK460D3LWG0Y | | N | P | 46" LCD Panel Module Unit (LC-46LE824E/RU) |

[3] CABINET PARTS (LC-40LE814E/RU)

Note:

Be sure to attach this insulation sheet. (Ref No. 2-6, 25, 53)
Otherwise there is a risk of electric shock.

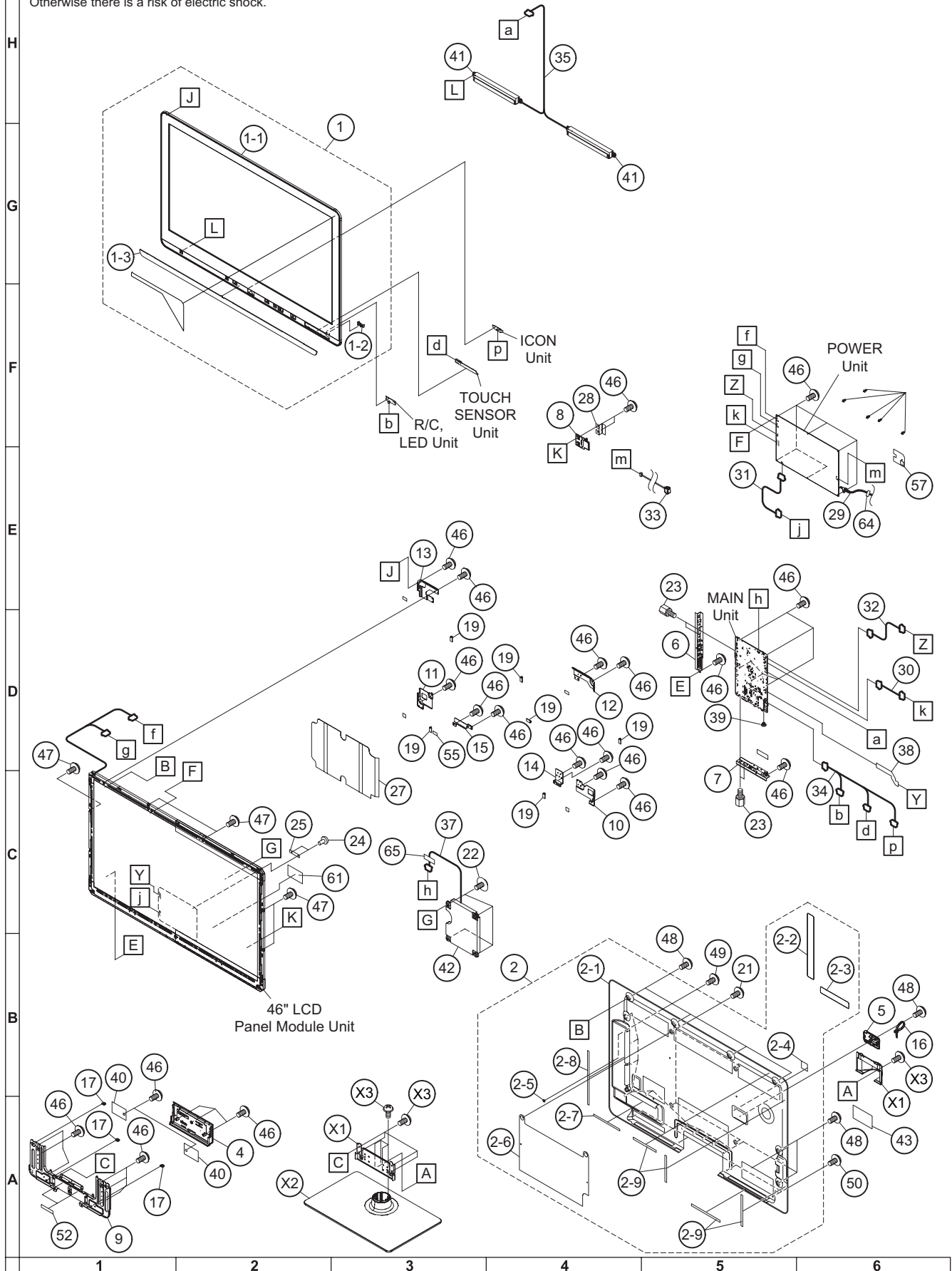


| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART DELIVERY | DESCRIPTION |
|---|---------------|------------|----------|---------------|--|
| [3] CABINET PARTS (LC-40LE814E/RU) | | | | | |
| 1 | CCABAC527WJ1A | | N | P | Front Cabinet Ass'y (for Europe) |
| 1 | CCABAC527WJ1B | | N | P | Front Cabinet Ass'y (for Russia) |
| 1-1 | Not Available | - | | - | Front Cabinet |
| 1-2 | HDECQB442WJ1A | | | P | R/C Decoration Cover |
| 1-3 | HDECZA038WJSA | | | P | Front Decoration |
| 1-6 | PSHEZA247WJZZ | | | P | Protect Tape, x4 |
| 1-7 | PSHEZA248WJZZ | | | P | Protect Tape, x2 |
| 1-8 | PSHEZA262WJZZ | | | P | Protect Tape, x2 |
| 1-9 | PSHEPB068WJKZ | | | P | Diffusion Sheet |
| 1-10 | TLABZC354WJZZ | | | P | ECO Label (for Europe) |
| 1-11 | TLABZC585WJZZ | AF | | J | QUATTRON Label |
| 2 | CCABBB698WJ13 | | | P | Rear Cabinet Ass'y |
| 2-1 | Not Available | - | | - | Rear Cabinet |
| 2-2 | HiNDPD710WJSA | | | P | Terminal Label (Side) |
| 2-3 | HiNDPD727WJSA | | N | P | Terminal Label (Bottom) |
| 2-4 | PSPAHC152WJ1Z | | | P | Himelon |
| 2-5 | PSPAHC461WJZZ | AE | | J | Spacer |
| 2-6 | PZETKA570WJKZ | | N | P | Insulation Sheet |
| 2-7 | PSPAHC159WJZZ | | | P | Spacer |
| 2-8 | PSPAHC160WJZZ | AC | | J | Spacer |
| 2-9 | PSPAHC194WJZZ | | N | P | Spacer, x4 |
| 4 | GCOVAD696WJ1A | | | P | Stand Cover |
| 5 | GCOVAD699WJ1A | | | P | AC Cord Cover |
| 6 | GCOVAD706WJSA | | | P | Terminal Angle (Side) |
| 7 | GCOVAD711WJSA | | | P | Terminal Angle (Bottom) |
| 8 | GCOVAD709WJ1A | | | P | ECO Switch Cover |
| 9 | LANGKD071WJM1 | | | P | Stand Angle |
| 10 | LANGKC743WJFW | AG | | J | LCD Angle (Bottom-L) |
| 11 | LANGKD011WJFW | | | P | LCD Angle (Bottom-R) |
| 12 | LANGKC745WJFW | AF | | J | LCD Angle (Top-L) |
| 13 | LANGKC746WJFW | AF | | J | LCD Angle (Top-R) |
| 14 | LANGKC775WJM1 | AL | | J | VESA Angle, x2 |
| 15 | LHLDKA011WJKZ | AD | | J | AC Cord Band |
| 16 | LHLDWA143WJKZ | AC | | J | Wire Holder, x4 |
| 17 | LHLDWA294WJUJ | AC | | J | Wire Holder, x4 |
| 19 | LX-BZA170WJF9 | AC | | J | Screw (for VESA/Rear Cabinet Ass'y), x4 |
| 20 | LX-BZA364WJF7 | AB | | J | Screw (for Woofer), x4 |
| 21 | NSFTZA362WJFW | AB | | J | Shaft (for PWB/Angle), x4 |
| 22 | PCLICA004WJKZ | AC | | J | Nylon Rivet, x2 |
| 23 | PMLT-A636WJZZ | AF | | J | Gasket |
| 25 | PZETKA548WJKZ | | | P | Insulation Sheet (Power) |
| 26 | PZETKA556WJKZ | | | P | Insulation Sheet (ECO) |
| 27 | QACCKA052WJPZ | AL | | J | AC Cord |
| 28 | QCNW-K976WJQZ | AG | | J | Connecting Cord (PD) |
| 29 | QCNW-K977WJQZ | AE | | J | Connecting Cord (PL) |
| 30 | QCNW-K551WJQZ | AU | | J | Connecting Cord (RA) |
| 31 | QCNW-K978WJQZ | AF | | J | Connecting Cord (LB) |
| 32 | QCNW-K553WJQZ | AH | | J | Connecting Cord (SB) |
| 33 | QCNW-K554WJQZ | AL | | J | Connecting Cord (SP) |
| 35 | QCNW-K556WJQZ | | | P | Connecting Cord (AS) |
| 36 | QCNW-K576WJQZ | AU | | J | Connecting Cord (LW) |
| 37 | QEARZ0057CEFW | AB | | J | Earth Spring |
| 38 | QEARZA186WJZZ | AG | | J | Conductive Tape, x2 |
| 39 | RSP-ZA474WJZZ | | | P | Speaker (L/R), x2 |
| 40 | RSP-ZA476WJZZ | | | P | Speaker (Woofer) |
| 41 | TLABNC117WJZZ | | | P | Model Label |
| 44 | XBPS730P06WS0 | AA | | J | Screw (for PWB/Angle), x38 |
| 45 | XBPS730P10WS0 | AA | | J | Screw (for Panel Angle), x3 |
| 46 | XBPS830P06WS0 | AA | | J | Screw (for Rear Cabinet Ass'y), x13 |
| 47 | XBPS830P14WS0 | AB | | J | Screw (for Rear Cabinet Ass'y) |
| 48 | XEBS840P10000 | AF | | J | Screw (for Speaker/Rear Cabinet Ass'y), x4 |
| 53 | PZETKA563WJKZ | | | P | Insulation Sheet (AC) |
| 56 | PSPAHC494WJKZ | AH | | J | Cooling Sheet |
| 59 | TLABZC453WJZZ | | | P | Panel Label |
| 61 | RCORFA023WJZZ | AK | | J | Core |
| 62 | PMLT-A578WJZZ | | | P | Gasket |
| 63 | RCORF0103CEZZ | AK | | J | Ferrite Core |
| 64 | TLABZC637WJZZ | | N | P | POP Label |
| 65 | TLABZC698WJZZ | | N | P | P_Q-EISA Label, x2 |
| 66 | LX-NZA049WJFN | AC | N | J | Nut |
| 67 | LHLDZA506WJKZ | AC | N | J | Spacer, x5 |
| 68 | PSPAGA931WJKZ | | | P | Spacer, x2 |
| 69 | PSPAGA933WJKZ | | | P | Spacer, x2 |
| 70 | PSPAHC648WJKZ | | N | P | Spacer, x2 |

[4] CABINET PARTS (LC-46LE814E/RU)

Note:

Be sure to attach this insulation sheet. (Ref No. 2-6, 27, 57)
Otherwise there is a risk of electric shock.

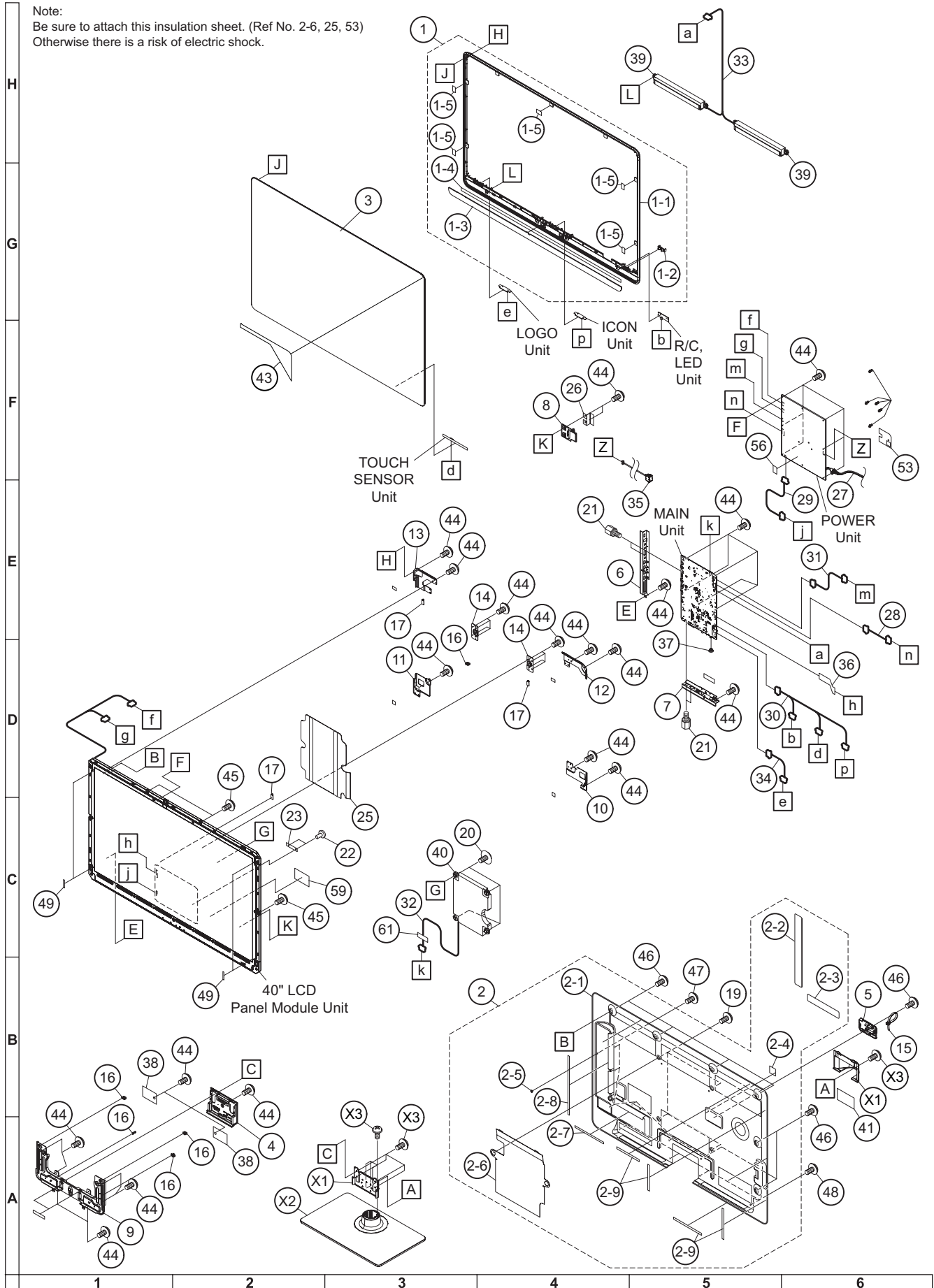


| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART DELIVERY | DESCRIPTION |
|---|----------------|------------|----------|---------------|--|
| [4] CABINET PARTS (LC-46LE814E/RU) | | | | | |
| 1 | CCABAC528WJ1A | | N | P | Front Cabinet Ass'y (for Europe) |
| 1 | CCABAC528WJ1B | | N | P | Front Cabinet Ass'y (for Russia) |
| 1-1 | Not Available | - | | - | Front Cabinet |
| 1-2 | HDECQB442WJ1A | | | P | R/C Decoration Cover |
| 1-3 | HDECZA039WJSA | | | P | Front Decoration |
| 1-6 | PSHEZA247WJZZ | | | P | Protect Tape, x4 |
| 1-7 | PSHEZA249WJZZ | | | P | Protect Tape, x2 |
| 1-8 | PSHEZA263WJZZ | | | P | Protect Tape, x2 |
| 1-9 | PSHEPB068WJKZ | | | P | Diffusion Sheet |
| 1-10 | TLABZC354WJZZ | | | P | ECO Label (for Europe) |
| 1-11 | TLABZC586WJZZ | AF | | J | QUATTRON Label |
| 2 | CCABBB699WE13 | | | P | Rear Cabinet Ass'y |
| 2-1 | Not Available | - | | - | Rear Cabinet |
| 2-2 | HiNDPD710WJSA | | | P | Terminal Label (Side) |
| 2-3 | HiNDPD727WJSA | | | P | Terminal Label (Bottom) |
| 2-4 | PSPAHC152WJ1Z | | | P | Himelon |
| 2-5 | PSPAHC461WJZZ | AE | | J | Spacer |
| 2-6 | PZETKA569WJKZ | | N | P | Insulation Sheet |
| 2-7 | PSPAHC159WJZZ | | | P | Spacer |
| 2-8 | PSPAHC160WJZZ | AC | | J | Spacer |
| 2-9 | PSPAHC194WJZZ | | N | P | Spacer, x4 |
| 4 | GCOVAD816WJ1A | | | P | Stand Cover |
| 5 | GCOVAD699WJ1A | | | P | AC Cord Cover |
| 6 | GCOVAD706WJSA | | | P | Terminal Angle (Side) |
| 7 | GCOVAD711WJSA | | | P | Terminal Angle (Bottom) |
| 8 | GCOVAD709WJ1A | | | P | ECO Switch Cover |
| 9 | LANGKD013WJ1W | | | P | Stand Angle |
| 10 | LANGKC743WJFW | AG | | J | LCD Angle (Bottom-L) |
| 11 | LANGKD011WJFW | | | P | LCD Angle (Bottom-R) |
| 12 | LANGKC745WJFW | AF | | J | LCD Angle (Top-L) |
| 13 | LANGKC746WJFW | AF | | J | LCD Angle (Top-R) |
| 14 | LANGKC747WJFW | AE | | J | LCD Angle (B-C-A) |
| 15 | LANGKC811WJFW | AE | | J | LCD Angle (B-C-B) |
| 16 | LHLDKA011WJKZ | AD | | J | AC Cord Band |
| 17 | LHLDDWA143WJKZ | AC | | J | Wire Holder, x3 |
| 19 | LHLDDWA294WJUJ | AC | | J | Wire Holder, x8 |
| 21 | LX-BZA170WJF9 | AC | | J | Screw (for VESA/Rear Cabinet Ass'y), x4 |
| 22 | LX-BZA364WJF7 | AB | | J | Screw (for Woofer), x4 |
| 23 | NSFTZA362WJFW | AB | | J | Shaft (for PWB/Angle), x4 |
| 24 | PCLICA004WJKZ | AC | | J | Nylon Rivet, x2 |
| 25 | PMLT-A636WJZZ | AF | | J | Gasket |
| 27 | PZETKA541WJKZ | | | P | Insulation Sheet (Power) |
| 28 | PZETKA556WJKZ | | | P | Insulation Sheet (ECO) |
| 29 | QACCKA052WJPZ | AL | | J | AC Cord |
| 30 | QCNW-K976WJQZ | AG | | J | Connecting Cord (PD) |
| 31 | QCNW-K977WJQZ | AE | | J | Connecting Cord (PL) |
| 32 | QCNW-K978WJQZ | AF | | J | Connecting Cord (LB) |
| 33 | QCNW-K556WJQZ | | | P | Connecting Cord (AS) |
| 34 | QCNW-K572WJQZ | AV | | J | Connecting Cord (RA) |
| 35 | QCNW-K559WJQZ | AK | | J | Connecting Cord (SP) |
| 37 | QCNW-K570WJQZ | AG | | J | Connecting Cord (SB) |
| 38 | QCNW-K577WJQZ | AR | | J | Connecting Cord (LW) |
| 39 | QEARZ0057CEFW | AB | | J | Earth Spring |
| 40 | QEARZA186WJZZ | AG | | J | Conductive Tape, x2 |
| 41 | RSP-ZA474WJZZ | | | P | Speaker (L/R), x2 |
| 42 | RSP-ZA476WJZZ | | | P | Speaker (Woofer) |
| 43 | TLABNC117WJZZ | | | P | Model Label |
| 46 | XBPS730P06WS0 | AA | | J | Screw (for PWB/Angle), x33 |
| 47 | XBPS730P10WS0 | AA | | J | Screw (for Panel Angle), x7 |
| 48 | XBPS830P06WS0 | AA | | J | Screw (for Rear Cabinet Ass'y), x17 |
| 49 | XBPS830P14WS0 | AB | | J | Screw (for Rear Cabinet Ass'y) |
| 50 | XEBS840P10000 | AF | | J | Screw (for Speaker/Rear Cabinet Ass'y), x4 |
| 52 | PSPAHC492WJKZ | AC | | J | Spacer, x2 |
| 55 | PSPAGA892WJKZ | AD | | J | Spacer |
| 57 | PZETKA563WJKZ | | | P | Insulation Sheet (AC) |
| 61 | TLABZC453WJZZ | | | P | Panel Label |
| 64 | RCORFA020WJZZ | AN | | J | Core (for AC Cord) |
| 65 | RCORFA023WJZZ | AK | | J | Core |
| 66 | PMLT-A578WJZZ | | | P | Gasket |
| 67 | RCORF0103CEZZ | AK | | J | Ferrite Core |
| 68 | TLABZC637WJZZ | | N | P | POP Label |
| 69 | TLABZC698WJZZ | | N | P | P_Q-EISA Label, x2 |
| 70 | LX-NZA049WJFN | AC | N | J | Nut |
| 71 | LHLDDZA506WJKZ | AC | N | J | Spacer, x6 |
| 72 | PSPAGA931WJKZ | | | P | Spacer, x2 |
| 73 | PSPAGA933WJKZ | | | P | Spacer, x2 |

[5] CABINET PARTS (LC-40LE824E/RU)

Note:

Be sure to attach this insulation sheet. (Ref No. 2-6, 25, 53)
Otherwise there is a risk of electric shock.

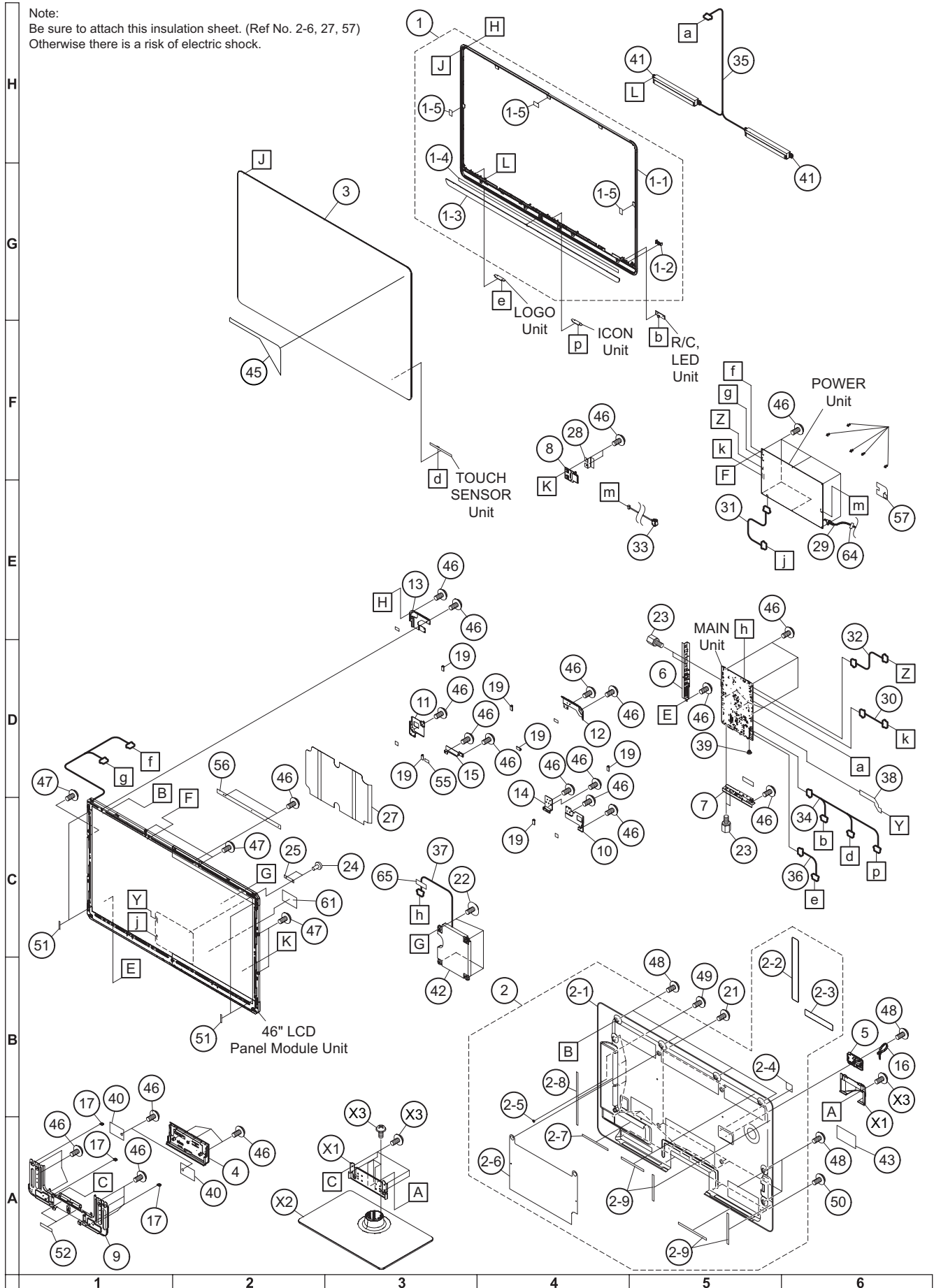


| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART DELIVERY | DESCRIPTION |
|---|---------------|------------|----------|---------------|--|
| [5] CABINET PARTS (LC-40LE824E/RU) | | | | | |
| 1 | CCABAC621WJ12 | | N | P | Front Cabinet Ass'y |
| 1-1 | Not Available | - | N | - | Front Cabinet |
| 1-2 | HDECQB420WJ1A | | | P | R/C Decoration Cover |
| 1-3 | HDECZA028WJSA | | | P | Front Decoration |
| 1-4 | PSPAGA906WJZZ | AD | | J | Spacer |
| 1-5 | PSPA2C495WJZZ | AB | | J | Double Side Tape, x5 |
| 1-6 | PSHEZA246WJZZ | | | P | Protect Tape, x4 |
| 1-7 | PSHEZA248WJZZ | | | P | Protect Tape, x2 |
| 1-8 | PSHEZA262WJZZ | | | P | Protect Tape, x2 |
| 1-9 | PSPAHC201WJZZ | | | P | Himelon, x4 |
| 2 | CCABBB698WJ13 | | | P | Rear Cabinet Ass'y |
| 2-1 | Not Available | - | | - | Rear Cabinet |
| 2-2 | HINDPD710WJSA | | | P | Terminal Label (Side) |
| 2-3 | HINDPD727WJSA | | N | P | Terminal Label (Bottom) |
| 2-4 | PSPAHC152WJ1Z | | | P | Himelon |
| 2-5 | PSPA2C461WJZZ | AE | | J | Spacer |
| 2-6 | PZETKA570WJKZ | | N | P | Insulation Sheet |
| 2-7 | PSPAHC159WJZZ | | | P | Spacer |
| 2-8 | PSPAHC160WJZZ | AC | | J | Spacer |
| 2-9 | PSPAHC194WJZZ | | N | P | Spacer, x4 |
| 3 | CPNLHA019WE14 | | N | P | Glass Front Panel Ass'y |
| 4 | GCOVAD696WJ1A | | | P | Stand Cover |
| 5 | GCOVAD699WJ1A | | | P | AC Cord Cover |
| 6 | GCOVAD706WJSA | | | P | Terminal Angle (Side) |
| 7 | GCOVAD711WJSA | | | P | Terminal Angle (Bottom) |
| 8 | GCOVAD709WJ1A | | | P | ECO Switch Cover |
| 9 | LANGKD071WJM1 | | | P | Stand Angle |
| 10 | LANGKC743WJFW | AG | | J | LCD Angle (Bottom-L) |
| 11 | LANGKD011WJFW | | | P | LCD Angle (Bottom-R) |
| 12 | LANGKC745WJFW | AF | | J | LCD Angle (Top-L) |
| 13 | LANGKC746WJFW | AF | | J | LCD Angle (Top-R) |
| 14 | LANGKC775WJM1 | AL | | J | VESA Angle, x2 |
| 15 | LHLDKA011WJKZ | AD | | J | AC Cord Band |
| 16 | LHLDWA143WJKZ | AC | | J | Wire Holder, x4 |
| 17 | LHLDWA294WJUJ | AC | | J | Wire Holder, x3 |
| 19 | LX-BZA170WJF9 | AC | | J | Screw (for VESA/Rear Cabinet Ass'y), x4 |
| 20 | LX-BZA364WJF7 | AB | | J | Screw (for Woofer), x4 |
| 21 | NSFTZA362WJFW | AB | | J | Shaft (for PWB/Angle), x4 |
| 22 | PCLICA004WJKZ | AC | | J | Nylon Rivet, x2 |
| 23 | PMLT-A636WJZZ | AF | | J | Gasket |
| 25 | PZETKA548WJKZ | | | P | Insulation Sheet (Power) |
| 26 | PZETKA556WJKZ | | | P | Insulation Sheet (ECO) |
| 27 | QACCKA052WJPZ | AL | | J | AC Cord |
| 28 | QCNW-K976WJQZ | AG | | J | Connecting Cord (PD) |
| 29 | QCNW-K977WJQZ | AE | | J | Connecting Cord (PL) |
| 30 | QCNW-K551WJQZ | AU | | J | Connecting Cord (RA) |
| 31 | QCNW-K978WJQZ | AF | | J | Connecting Cord (LB) |
| 32 | QCNW-K553WJQZ | AH | | J | Connecting Cord (SB) |
| 33 | QCNW-K554WJQZ | AL | | J | Connecting Cord (SP) |
| 34 | QCNW-K580WJQZ | | | P | Connecting Cord (RL) |
| 35 | QCNW-K556WJQZ | | | P | Connecting Cord (AS) |
| 36 | QCNW-K576WJQZ | AU | | J | Connecting Cord (LW) |
| 37 | QEARZ0057CEFW | AB | | J | Earth Spring |
| 38 | QEARZA186WJZZ | AG | | J | Conductive Tape, x2 |
| 39 | RSP-ZA474WJZZ | | | P | Speaker (L/R), x2 |
| 40 | RSP-ZA476WJZZ | | | P | Speaker (Woofer) |
| 41 | TLABNC117WJZZ | | | P | Model Label |
| 43 | TLABZC585WJZZ | AF | | J | QUATTRON Label |
| 44 | XBPS730P06WS0 | AA | | J | Screw (for PWB/Angle), x38 |
| 45 | XBPS730P10WS0 | AA | | J | Screw (for Panel Angle), x3 |
| 46 | XBPS830P06WS0 | AA | | J | Screw (for Rear Cabinet Ass'y), x13 |
| 47 | XBPS830P14WS0 | AB | | J | Screw (for Rear Cabinet Ass'y) |
| 48 | XEBS840P10000 | AF | | J | Screw (for Speaker/Rear Cabinet Ass'y), x4 |
| 49 | PSPAGA888WJZZ | AB | | J | Spacer, x4 |
| 53 | PZETKA563WJKZ | | | P | Insulation Sheet (AC) |
| 56 | PSPA2C494WJKZ | AH | N | J | Cooling Sheet |
| 59 | TLABZC453WJZZ | | | P | Panel Label |
| 61 | RCORFA023WJZZ | AK | | J | Core |
| 62 | PMLT-A578WJZZ | | | P | Gasket |
| 63 | RCORF0103CEZZ | AK | | J | Ferrite Core |
| 64 | TLABZC638WJZZ | | N | P | POP Label |
| 65 | TLABZC698WJZZ | | N | P | P_Q-EISA Label, x2 |
| 66 | LX-NZA049WJFN | AC | N | J | Nut |
| 67 | LHLDZA506WJKZ | AC | N | J | Spacer, x5 |
| 68 | PSPAGA931WJKZ | | | P | Spacer, x2 |
| 69 | PSPAGA933WJKZ | | | P | Spacer, x2 |
| 70 | PSPA2C648WJKZ | | N | P | Spacer, x2 |
| 71 | TLABZC354WJZZ | | | P | ECO Label (for Europe) |

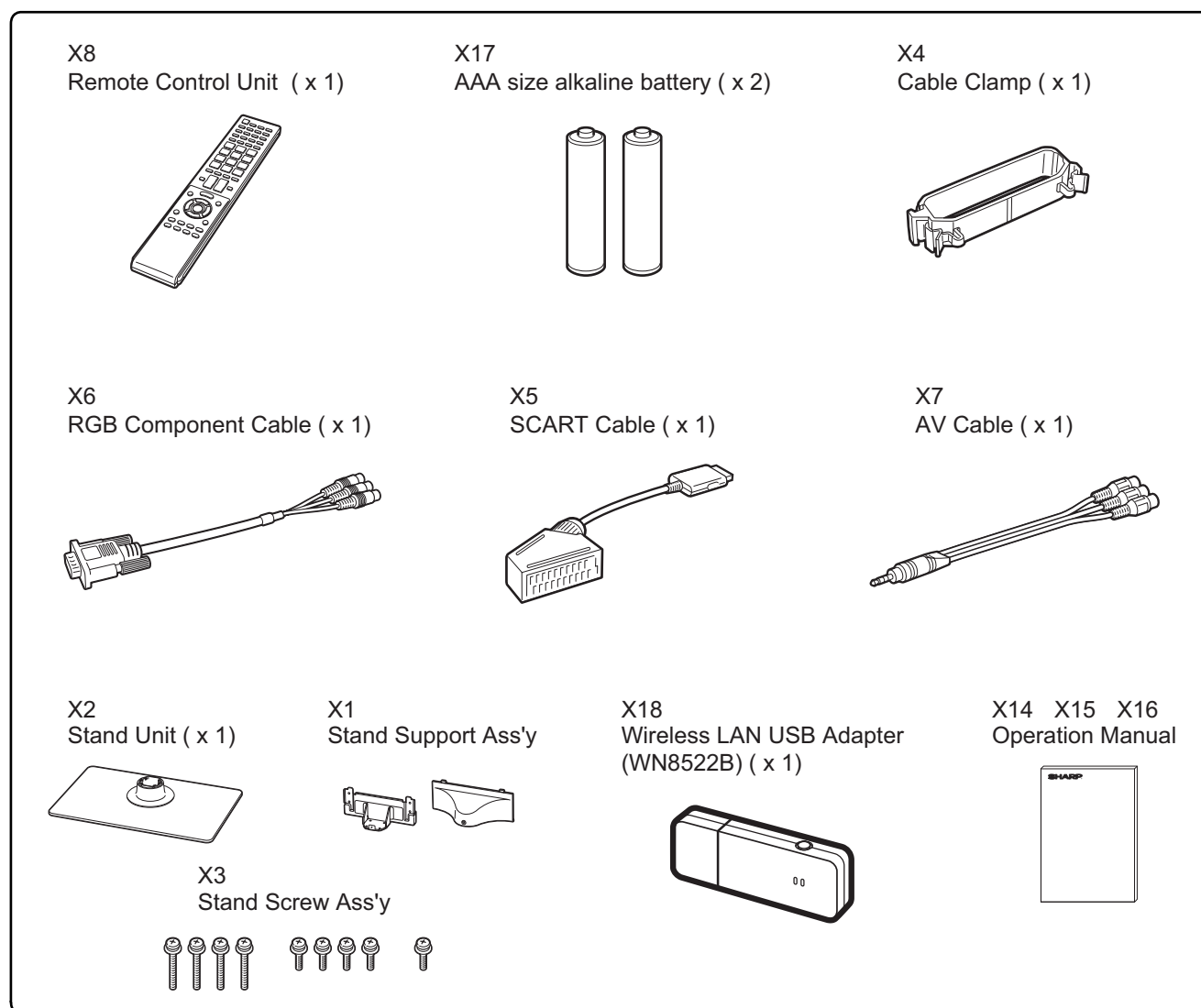
[6] CABINET PARTS (LC-46LE824E/RU)

Note:

Be sure to attach this insulation sheet. (Ref No. 2-6, 27, 57)
Otherwise there is a risk of electric shock.

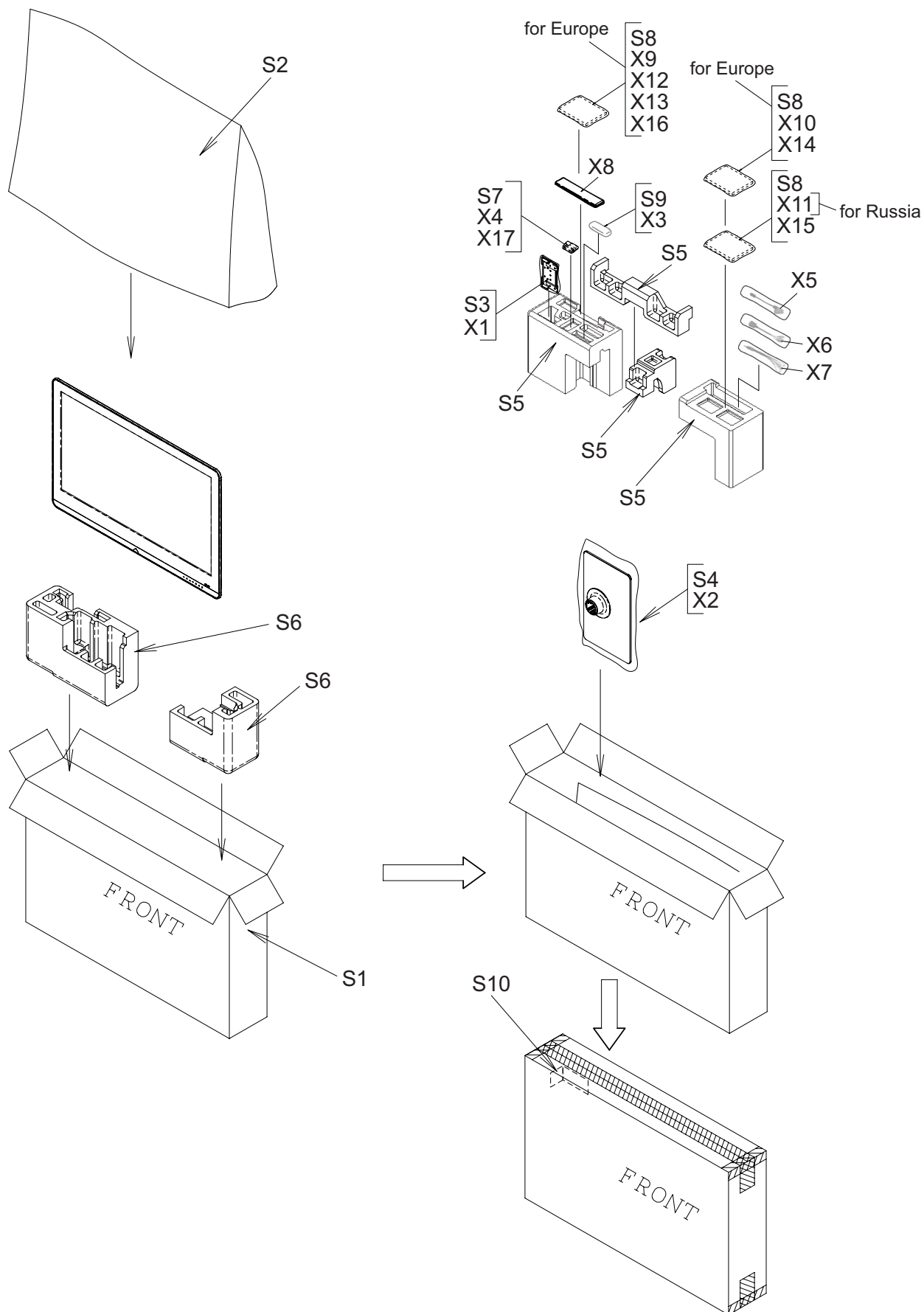


| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART DELIVERY | DESCRIPTION |
|---|----------------|------------|----------|---------------|--|
| [6] CABINET PARTS (LC-46LE824E/RU) | | | | | |
| 1 | CCABAC612WJ12 | | N | P | Front Cabinet Ass'y |
| 1-1 | Not Available | - | N | - | Front Cabinet |
| 1-2 | HDECQB420WJ1A | | | P | R/C Decoration Cover |
| 1-3 | HDECZA029WJSA | | | P | Front Decoration |
| 1-4 | PSPAGA907WJZZ | AD | | J | Spacer |
| 1-5 | PSPA4C495WJZZ | AB | | J | Double Side Tape, x3 |
| 1-6 | PSHEZA246WJZZ | | | P | Protect Tape, x4 |
| 1-7 | PSHEZA249WJZZ | | | P | Protect Tape, x2 |
| 1-8 | PSHEZA263WJZZ | | | P | Protect Tape, x2 |
| 1-9 | PSPAHC201WJZZ | | | P | Himelon, x4 |
| 2 | CCABBB699WE13 | | N | P | Rear Cabinet Ass'y |
| 2-1 | Not Available | - | | - | Rear Cabinet |
| 2-2 | HINDPD710WJSA | | | P | Terminal Label (Side) |
| 2-3 | HINDPD727WJSA | | | P | Terminal Label (Bottom) |
| 2-4 | PSPAHC152WJ1Z | | | P | Himelon |
| 2-5 | PSPA4C461WJZZ | AE | | J | Spacer |
| 2-6 | PZETKA569WJKZ | | N | P | Insulation Sheet |
| 2-7 | PSPAHC159WJZZ | | | P | Spacer |
| 2-8 | PSPAHC160WJZZ | AC | | J | Spacer |
| 2-9 | PSPAHC194WJZZ | | N | P | Spacer, x4 |
| 3 | CPNLHA020WJ12 | | N | P | Glass Front Panel Ass'y |
| 4 | GCOVAD816WJ1A | | | P | Stand Cover |
| 5 | GCOVAD699WJ1A | | | P | AC Cord Cover |
| 6 | GCOVAD706WJSA | | | P | Terminal Angle (Side) |
| 7 | GCOVAD711WJSA | | | P | Terminal Angle (Bottom) |
| 8 | GCOVAD709WJ1A | | | P | ECO Switch Cover |
| 9 | LANGKD013WJ1W | | | P | Stand Angle |
| 10 | LANGKC743WJFW | AG | | J | LCD Angle (Bottom-L) |
| 11 | LANGKD011WJFW | | | P | LCD Angle (Bottom-R) |
| 12 | LANGKC745WJFW | AF | | J | LCD Angle (Top-L) |
| 13 | LANGKC746WJFW | AF | | J | LCD Angle (Top-R) |
| 14 | LANGKC747WJFW | AE | | J | LCD Angle (B-C-A) |
| 15 | LANGKC811WJFW | AE | | J | LCD Angle (B-C-B) |
| 16 | LHLDKA011WJKZ | AD | | J | AC Cord Band |
| 17 | LHLDDWA143WJKZ | AC | | J | Wire Holder, x3 |
| 19 | LHLDDWA294WJUJ | AC | | J | Wire Holder, x6 |
| 21 | LX-BZA170WJF9 | AC | | J | Screw (for VESA/Rear Cabinet Ass'y), x4 |
| 22 | LX-BZA364WJF7 | AB | | J | Screw (for Woofer), x4 |
| 23 | NSFTZA362WJFW | AB | | J | Shaft (for PWB/Angle), x4 |
| 24 | PCLICA004WJKZ | AC | | J | Nylon Rivet, x2 |
| 25 | PMLT-A636WJZZ | AF | | J | Gasket |
| 27 | PZETKA541WJKZ | | | P | Insulation Sheet (Power) |
| 28 | PZETKA556WJKZ | | | P | Insulation Sheet (ECO) |
| 29 | QACCKA052WJPZ | AL | | J | AC Cord |
| 30 | QCNW-K976WJQZ | AG | | J | Connecting Cord (PD) |
| 31 | QCNW-K977WJQZ | AE | | J | Connecting Cord (PL) |
| 32 | QCNW-K978WJQZ | AF | | J | Connecting Cord (LB) |
| 33 | QCNW-K556WJQZ | | | P | Connecting Cord (AS) |
| 34 | QCNW-K572WJQZ | AV | | J | Connecting Cord (RA) |
| 35 | QCNW-K559WJQZ | AK | | J | Connecting Cord (SP) |
| 36 | QCNW-K580WJQZ | | | P | Connecting Cord (RL) |
| 37 | QCNW-K570WJQZ | AG | | J | Connecting Cord (SB) |
| 38 | QCNW-K577WJQZ | AR | | J | Connecting Cord (LW) |
| 39 | QEARZ0057CEFW | AB | | J | Earth Spring |
| 40 | QEARZA186WJZZ | AG | | J | Conductive Tape, x2 |
| 41 | RSP-ZA474WJZZ | | | P | Speaker (L/R), x2 |
| 42 | RSP-ZA476WJZZ | | | P | Speaker (Woofer) |
| 43 | TLABNC117WJZZ | | | P | Model Label |
| 45 | TLABZC586WJZZ | AF | | J | QUATTRON Label |
| 46 | XBPS730P06WS0 | AA | | J | Screw (for PWB/Angle), x35 |
| 47 | XBPS730P10WS0 | AA | | J | Screw (for Panel Angle), x7 |
| 48 | XBPS830P06WS0 | AA | | J | Screw (for Rear Cabinet Ass'y), x17 |
| 49 | XBPS830P14WS0 | AB | | J | Screw (for Rear Cabinet Ass'y) |
| 50 | XEBS840P10000 | AF | | J | Screw (for Speaker/Rear Cabinet Ass'y), x4 |
| 51 | PSPAGA888WJZZ | AB | | J | Spacer, x4 |
| 52 | PSPA4C492WJKZ | AC | | J | Spacer, x2 |
| 55 | PSPAGA892WJKZ | AD | | J | Spacer |
| 56 | LANGFA776WJFW | AK | | J | BL Chassis Support Angle |
| 57 | PZETKA563WJKZ | | | P | Insulation Sheet (AC) |
| 61 | TLABZC453WJZZ | | | P | Panel Label |
| 64 | RCORFA020WJZZ | AN | | J | Core (for AC Cord) |
| 65 | RCORFA023WJZZ | AK | | J | Core |
| 66 | PMLT-A578WJZZ | | | P | Gasket |
| 67 | RCORF0103CEZZ | AK | | J | Ferrite Core |
| 68 | TLABZC638WJZZ | | N | P | POP Label |
| 69 | TLABZC698WJZZ | | N | P | P Q-EISA Label, x2 |
| 70 | LX-NZA049WJFN | AC | N | J | Nut |
| 71 | LHLDDZA506WJKZ | AC | N | J | Spacer, x6 |
| 72 | PSPAGA931WJKZ | | | P | Spacer, x2 |
| 73 | PSPAGA933WJKZ | | | P | Spacer, x2 |
| 74 | TLABZC354WJZZ | | | P | ECO Label (for Europe) |
| 75 | LHLDDW1033CE00 | AA | | J | Wire Holder |

[7] SUPPLIED ACCESSORIES

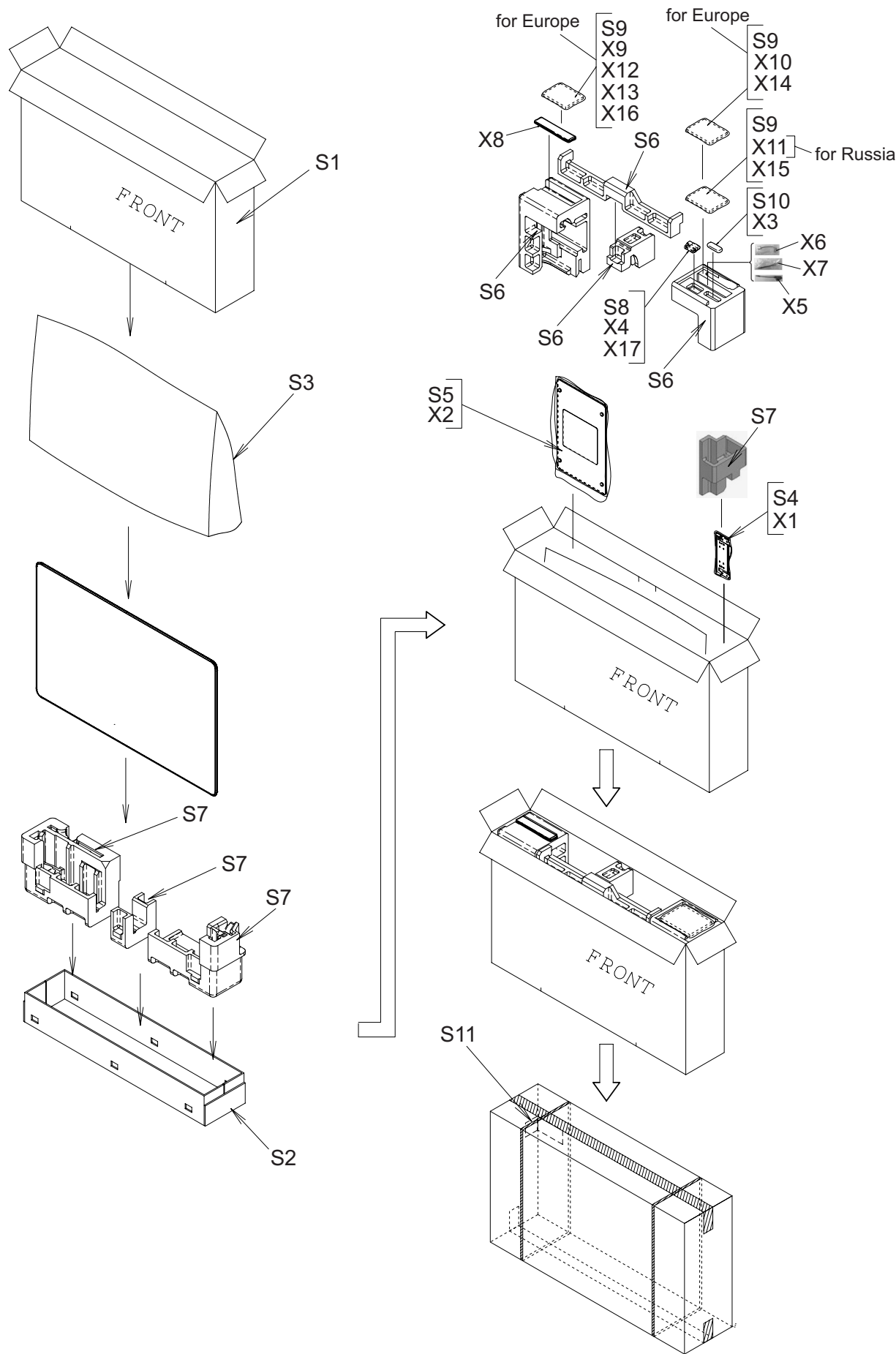
| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART DELIVERY | DESCRIPTION |
|---------------------------------|---------------|------------|----------|---------------|--|
| [7] SUPPLIED ACCESSORIES | | | | | |
| X1 | CANGKC707WJ01 | AY | | J | Stand Support Ass'y (LC-40LE814E/RU)(LC-40LE824E/RU) |
| X1 | CANGKC708WJ01 | AX | | J | Stand Support Ass'y (LC-46LE814E/RU)(LC-46LE824E/RU) |
| X2 | CDAi-A709WJ04 | | N | P | Stand Unit (LC-40LE814E/RU)(LC-40LE824E/RU) |
| X2 | CDAi-A710WJ04 | | N | P | Stand Unit (LC-46LE814E/RU)(LC-46LE824E/RU) |
| X3 | CX-BZA363WJ01 | AF | | J | Stand Screw Ass'y |
| X4 | LHLDWA298WJKA | AD | N | J | Cable Clamp |
| X5 | QCNWGA158WJPZ | | | P | SCART Cable |
| X6 | QCNWGA159WJPZ | | | P | RGB Component Cable |
| X7 | QCNWGA160WJPZ | AM | | J | AV Cable |
| X8 | RRMCGA906WJSA | | N | P | Remote Control Unit (LC-40LE814E/RU)(LC-46LE814E/RU) |
| X8 | RRMCGA903WJSA | | N | P | Remote Control Unit (LC-40LE824E/RU)(LC-46LE824E/RU) |
| X9 | TCAUSA034WJZZ | | | P | Caution Card (for Europe) |
| X10 | TCAUZA408WJZZ | | | P | Caution Card (for Europe) |
| X11 | TGAN-A077WJZZ | | | P | Warranty Card (for Russia) |
| X12 | TGAN-B078WJZZ | | | P | Warranty Card (for Europe) |
| X13 | TGAN-B079WJZZ | | | P | Warranty Card (for Europe) |
| X14 | TINS-E832WJZZ | | N | P | Operation Manual (for Europe) |
| X15 | TINS-E833WJZZ | | N | P | Operation Manual |
| X16 | TINS-E915WJZZ | | N | P | Operation Manual (for Europe) |
| X17 | Not Available | - | | - | AAA size alkaline battery, x2 |
| X18 | Ki-OUA001WJZZ | | N | P | Wireless LAN USB Adapter |

[8] PACKING PARTS (NOT REPLACEMENT ITEM)(LC-40LE814/824E/RU)



| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART DELIVERY | DESCRIPTION |
|---|----------------|---------------|-------------|------------------|-----------------------------------|
| [8] PACKING PARTS (NOT REPLACEMENT ITEM)(LC-40LE814/824E/RU) | | | | | |
| S1 | SPAKCF805WJZZ | - | | - | Packing Case |
| S2 | SPAKPB475WJZZ | - | | - | Wrapping Paper |
| S3 | SPAKPB526WJZZ | - | N | - | Wrapping Paper, x2 |
| S4 | SPAKPB528WJZZ | - | | - | Wrapping Paper |
| S5 | SPAKXC920WJZZ | - | | - | Packing Add. (Top) |
| S6 | SPAKXD105WJZZ | - | N | - | Packing Add. (Bottom) |
| S7 | SSAKAA009WJZZ | - | | - | Polyethylene Bag |
| S8 | SSAKAA111WJZZ | - | | - | Polyethylene Bag, x3 (for Europe) |
| S8 | SSAKAA111WJZZ | - | | - | Polyethylene Bag (for Russia) |
| S9 | SSAKAA008WJZZ | - | N | - | Polyethylene Bag |
| S10 | T LABM5584BMZZ | - | | - | Case No Label |

[9] PACKING PARTS (NOT REPLACEMENT ITEM)(LC-40LE814/824E/RU)



| NO. | PARTS CODE | PRICE RANK | NEW MARK | PART DELIVERY | DESCRIPTION |
|---|---------------|------------|----------|---------------|---|
| [9] PACKING PARTS (NOT REPLACEMENT ITEM)(LC-46LE814/824E/RU) | | | | | |
| S1 | SPAKCF804WJZZ | - | | - | Packing Case (Top) |
| S2 | SPAKCF496WJZZ | - | | - | Packing Case (Bottom) |
| S3 | SPAKPB477WJZZ | - | | - | Wrapping Paper |
| S4 | SPAKPB527WJZZ | - | N | - | Wrapping Paper, x2 |
| S5 | SPAKPB529WJZZ | - | | - | Wrapping Paper |
| S6 | SPAKXC921WJZZ | - | | - | Packing Add. (Top) |
| S7 | SPAKXD106WJZZ | - | N | - | Packing Add. (Bottom) |
| S8 | SSAKAA009WJZZ | - | | - | Polyethylene Bag |
| S9 | SSAKAA111WJZZ | - | | - | Polyethylene Bag, x3 (for Europe) |
| S9 | SSAKAA111WJZZ | - | | - | Polyethylene Bag (for Russia) |
| S10 | SSAKKA008WJZZ | - | N | - | Polyethylene Bag |
| S11 | TLABM5584BMZZ | - | | - | Case No Label |
| [10] SERVICE JIGS (USE FOR SERVICING) | | | | | |
| N | QCNW-G616WJQZ | BK | | J | Main Unit to LCD Control Unit (LW) |
| N | QCNW-G625WJQZ | AP | | J | Main Unit to Power Unit (PL) |
| N | QCNW-H184WJQZ | AX | | J | Main Unit to Power Unit (PD) |
| N | QCNW-H185WJQZ | AV | | J | Main Unit to Power Unit (LB) |
| N | QCNW-K594WJQZ | | N | J | Main Unit to R/C, LED Unit (RA) |
| N | QCNW-K595WJQZ | | N | J | Main Unit to Speaker (SP) |
| N | QCNW-K596WJQZ | | N | J | Main Unit to Icon Unit (RL) (LC-40LE824E/RU)(LC-46LE824E/RU) |
| N | QCNW-K597WJQZ | | N | J | Main Unit to Woofer (SB) |

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